Utilizing EPA's Websites & Programs:
TRI Homepage,
"Envirofacts, TRI Explorer, and TRI.NET,"

to Understand & Analyze

Toxic Chemical Releases, and
Other Waste Management Activities
Reported to EPA

Pursuant to the Emergency Planning and Community Right-to-Know Act (EPCRA) Section 313

Compiled by:
Morton E. Wakeland, Jr., Ph.D. ("Mort")
(214.665.8116)
wakeland.morton@epa.gov
U.S. EPA Region 6
EPCRA 313 Enforcement and TRI Program Coordinator

August 2011
***Revised* August 2012**
***Revised* February 2013**

Table of Contents

Table of Contents *continued*

Introduction

The Toxic Release Inventory (TRI), the database which houses information collected pursuant to Section 313 of EPCRA (see 42 U.S.C. § 11023, the law; and 40 C.F.R. § 372, the regulations), from "selected facilities." It was established by the Superfund Amendments and Reauthorization Act of 1986, also referred to as SARA Title III. This is an annual reporting obligation that became effective for the 1987 calendar year, with first reports due on or before July 1, 1988, and yearly thereafter on the same date of July 1st. Information regarding the facility, toxic chemical releases, and how those toxic chemicals are waste managed are reported on an EPA form called "Form R." If special conditions are met regarding the use and releases of that toxic chemical a shorter "Form A" may be utilized (see 40 C.F.R. § 372.27).

As part of the "Community Right-to-Know" laws the Toxic Release Inventory Program is responsible for making the collected data available to the public. Therefore, the TRI Program developed web based databases for the public to access and utilize this information.

Not every type of facility must report to TRI. It is important to understand that there are three (3) basic requirements, all of which must be met, for a facility to come under the reporting obligations of Section 313 of EPCRA. Due to the fact that reports are annual, all three (3) requirements must be met each year for which a report is turned in:

1) The facility must have at least 10 full-time employees or the equivalent of 20,000 hours worked in the reporting year (RY) by all full-time, part-time, and contract employees.

2) The facility must have a primary SIC (Standard Industrial Classification) code or equivalent NAICS (North American Industrial Classification System) code listed at 40 C.F.R. § 372.23. Most often, the type of facilities covered by Section 313 of EPCRA are manufacturing type facilities; however, other sectors are covered. NAICS codes have been adopted by the TRI Program since the 2005 RY to identify where a facility's primary revenue is derived from. However, in some instances, previous SIC codes must be referenced for clarification.

3) The facility must "**manufacture**, **process**, or **otherwise use**" (these are "covered activities" at the facility under Section 313 of EPCRA and have specific meaning – see 40 C.F.R. § 372.3) a listed toxic 313 chemical (see 40 C.F.R. §§ 372.28 (persistent bioaccumulative toxins – PBT's, and 372.65 (non-PBT's)) at above "threshold" amounts. All units for threshold are in pounds, except for dioxin and dioxin-like compounds, which are in grams. Thresholds for reporting are different based on "activity of use" at the facility, and whether or not the toxic 313 chemical is classed as a PBT or not. Thresholds are:

Non-PBT's (the vast majority of toxic 313 chemicals)

Manufacturing and Processing:	25,000 pounds/year
Otherwise using:	10,000 pounds/year

PBT's (only about 20 chemicals)

Thresholds are individually listed, by chemical, at 40 C.F.R. § 372.28 and range from 10 pounds per year (e.g., mercury, mercury compounds, and benzo(g,h,i)perylene) to 100 pounds per year (e.g., lead, lead compounds, and PAC's). Unlike non-PBT's, the threshold for reporting is the same, regardless of activity of use.

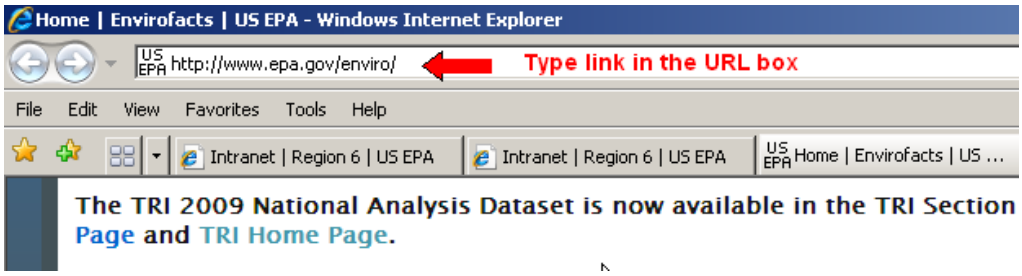
Additional information regarding TRI may be found at the TRI Homepage:
http://www.epa.gov/tri/
If more background information is sought regarding how facilities report and reporting obligations, access the Training modules, links are along the left side of the home screen under "Training."

Envirofacts:

http://www.epa.gov/enviro/

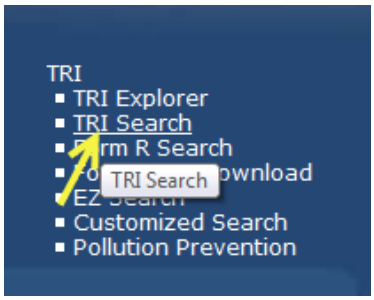
There is much more information located within Envirofacts other than just from TRI. However, this User's Reference shall only address accessing and utilizing TRI information within the aforementioned EPA Websites and TRI.NET.

To access Envirofacts for the first time, type in the aforementioned link into your URL address bar (see below), or you could simply "Google" – "EPA Envirofacts."

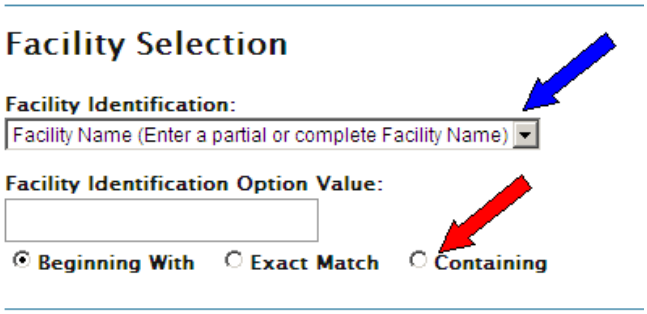


Envirofacts is used to "visually" capture a synopsis of a facility's historical reporting. To find a facility, or group of facilities, that you are interested in, click on "TRI Search" – the major topic heading on the Envirofacts Homepage. See red arrow below:

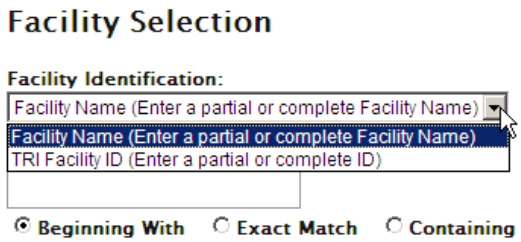
Once you place your cursor over TRI, the pointer will change to a "hand," single left click. **Throughout this document, "click" will mean to imply LEFT click. If one is to RIGHT click, then it will be clarified with "RIGHT."**



The next screen which appears is the search screen. Here, you can search by any number of ways to find the facility or facilities which you are interested in. Unless the name of the facility is very simplistic, it is recommended that you search by either **zip code**, or **city/state**. It is also recommended if you do a search by facility name, you change the "radio button" on the bottom of the Facility Name box to "containing" – see red arrow below.

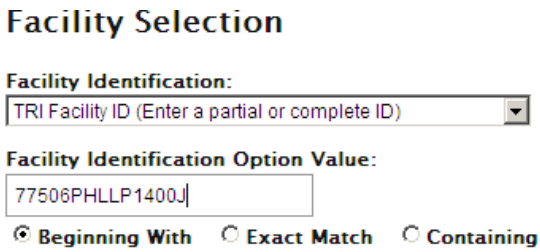


Note that below Facility Identification, it has by default, "Facility Name" with a drop down menu option on the far right (down arrow – see below):



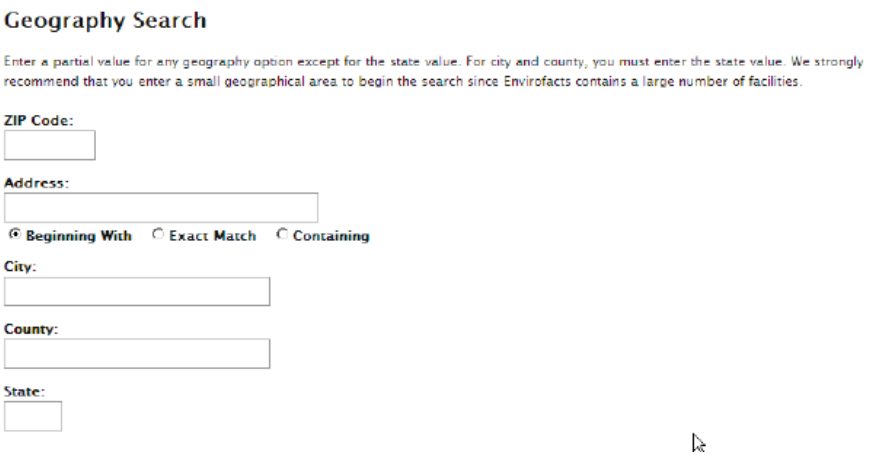
If you happen to know what the "Toxic Release Inventory Facility Identification Number" (TRIFID) is for a specific facility, you may enter it into the box vs a name. Note that TRIFID's are unique to each site that reports to TRI and never changes,

although the name of the owner operator may change. TRIFID's are explained below.



Do not forget to change the search criteria to "TRI Facility ID," for if you leave it at "Facility Name" your search will end up with nothing.

As mentioned previously, to insure you cover all your bases, you may want to do a "Geographic" search by entering either just a zip code, or entering **city / state**.



The one issue with facility name is that facilities change their name all the time, and are sold all the time. You may "think" the name of the facility is Hexion, but on searching for that name, say in Dallas, Texas, nothing was found. So it may be

best to search on Dallas, Texas, and then look for the address – you may see that the name has changed. One abnormal feature of Envirofacts is that if a new owner/operator takes over a facility, that new name is populated in the database back to when the site first reported. Let's say that Exxon operated a site and reported from 1987 till 2007, then the facility was sold to Shell. The name Shell will populate the database for that site beginning in 2007 back to 1987. It would appear on the surface then that Shell was the only operator. But we know this is not true. There is one "trick" in gaining an understanding if the present owner/operator was the original owner/operator when the facility first began reporting. The "trick" is to look at the TRIFID – see example below:

77507DXCHM10701	View Facility Information	DIXIE CHEMICAL CO INC	10601 BAY AREA BLVD PASADENA, TX 77507	HARRIS

Look at the letters in the middle of the TRIFID – note that they appear to be an abbreviation for Dixie Chemical. Therefore, it's most likely Dixie is the original owner / operator and is still reporting.

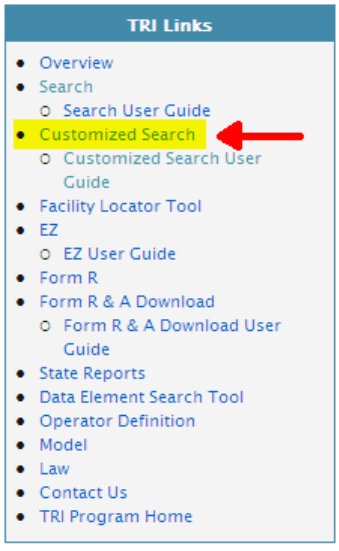
Sometimes though, it's not that straight forward from looking at the TRIFID.

77507HNTSM12222	View Facility Information	INEOS NOVA LLC	12222 PORT RD PASADENA, TX 775071800	HARRIS

More than likely, in the example immediately above, Ineos is not the original owner / operator. There is one way to determine who in fact operated a facility during its history.

Customize Query for Operator History

After clicking TRI, and you are at the Envirofacts search screen, look to your right and see the upper box entitled **"TRI Links."**



Within that box, you want to click on **Customize Search.** In Step 1, there are a list of options in blue, on the left side of the screen. Click on **"Facility History,"** be sure NOT to click the first option "Facility Information," or this won't work.

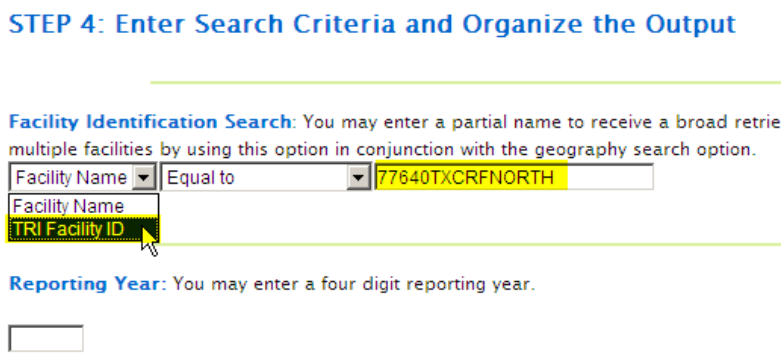
Next, do not select any of the blue titles, simply click on **"Step 2: Retrieve Tables for Selected Subjects."** On the next screen however, click the box next to **"tri-facility-history,"** then click **"Step 3: Select Columns."**

Because you are going to use the TRIFID to search on, you must select it, and because you are interested in the name of the facility, you must check that, as well as the reporting year. The other items are optional, but for this example, let's also select the address and city/state of the facility.

TRIFID
FACILITY_NAME
REPORTING_YEAR
STREET ADDRESS
CITY NAME
STATE ABBREVIATION

After the above options have been checked, scroll to the bottom of the screen and click on **"Step 4: Enter Search Criteria."**

On this page, you need only input the TRIFID of the facility who's history you want to check. Be sure to use the drop down arrow to select TRI Facility ID or your query will return without any results. If you want all years the facility site has reported to TRI, leave "Reporting Year" blank.



Scroll to the bottom of the screen and click on “Search Database.”

We can see that Motiva has consistently operated the facility back to 1998, when Star Enterprises operated it for 1997, with Texaco operating it the first two years of TRI reporting, 1987 and 1988. For some reason, there is no information from 1989 – 1996. Perhaps the facility was inactive. You can also see that the address has changed a little over time, but the site is the same.

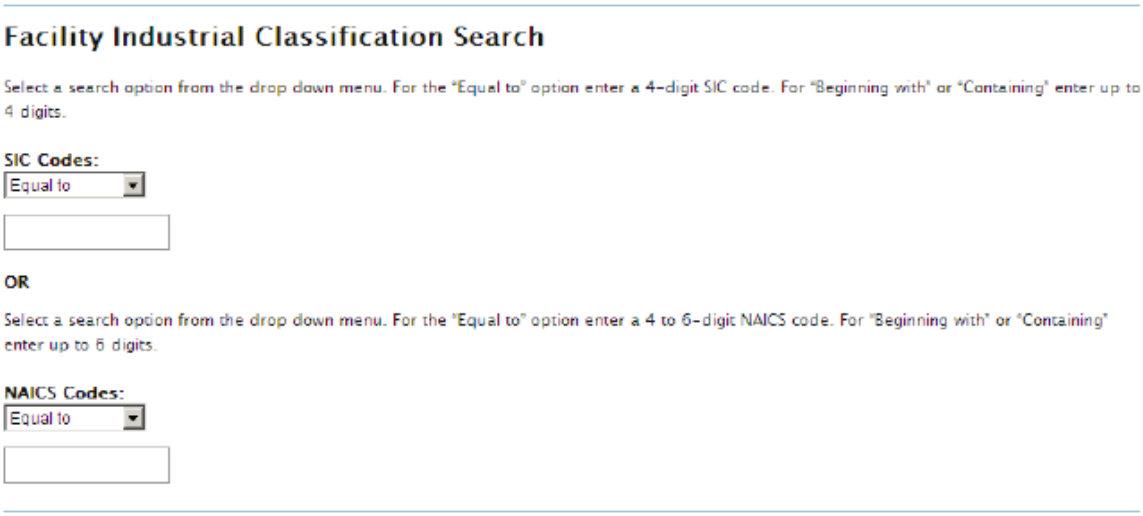
TRI Facility Id	Facility Name	Reporting Year	Street Address	City Name	State Abbreviation
77640TXCRFNORTH	TEXACO REF. & MKTG. INC., PORT ARTHUR PLANT	1987	NORTH END HOUSTON AVE.,	PORT ARTHUR	TX
77640TXCRFNORTH	TEXACO REFINING & MARKETING, INC. PAP	1988	NORTH END OF HOUSTON AVE.,	PORT ARTHUR	TX
77640TXCRFNORTH	STAR ENT., PORT ARTHUR PLANT	1997	2100 HOUSTON AVE.	PORT ARTHUR	TX
77640TXCRFNORTH	MOTIVA PORT ARTHUR REFY.	1998	2100 HOUSTON AVE.	PORT ARTHUR	TX
77640TXCRFNORTH	MOTIVA PORT ARTHUR REFY.	1999	2100 HOUSTON AVE.	PORT ARTHUR	TX
77640TXCRFNORTH	MOTIVA PORT ARTHUR REFY.	2000	2100 HOUSTON AVE.	PORT ARTHUR	TX
77640TXCRFNORTH	MOTIVA ENTERPRISES L.L.C.	2001	2100 HOUSTON AVE.	PORT ARTHUR	TX
77640TXCRFNORTH	MOTIVA ENTERPRISES L.L.C.	2002	2100 HOUSTON AVE.	PORT ARTHUR	TX
77640TXCRFNORTH	MOTIVA ENTERPRISES LLC PORT ARTHUR REFINERY	2003	2100 HOUSTON AVE	PORT ARTHUR	TX
77640TXCRFNORTH	MOTIVA ENTERPRISES LLC PORT ARTHUR REFINERY	2004	2100 HOUSTON AVE	PORT ARTHUR	TX
77640TXCRFNORTH	MOTIVA ENTERPRISES LLC PORT ARTHUR REFINERY	2005	2100 HOUSTON AVE	PORT ARTHUR	TX
77640TXCRFNORTH	MOTIVA ENTERPRISES LLC	2006	2555 SAVANNAH AVE	PORT ARTHUR	TX
77640TXCRFNORTH	MOTIVA ENTERPRISES LLC	2007	2555 SAVANNAH AVE	PORT ARTHUR	TX
77640TXCRFNORTH	MOTIVA ENTERPRISES LLC	2008	2555 SAVANNAH AVE	PORT ARTHUR	TX
77640TXCRFNORTH	MOTIVA ENTERPRISES LLC	2009	2555 SAVANNAH AVE	PORT ARTHUR	TX

The two push pins represent the two addresses. More than likely, this is just a change from one entrance to the facility to another (Generated from ArcGIS Explorer Online).

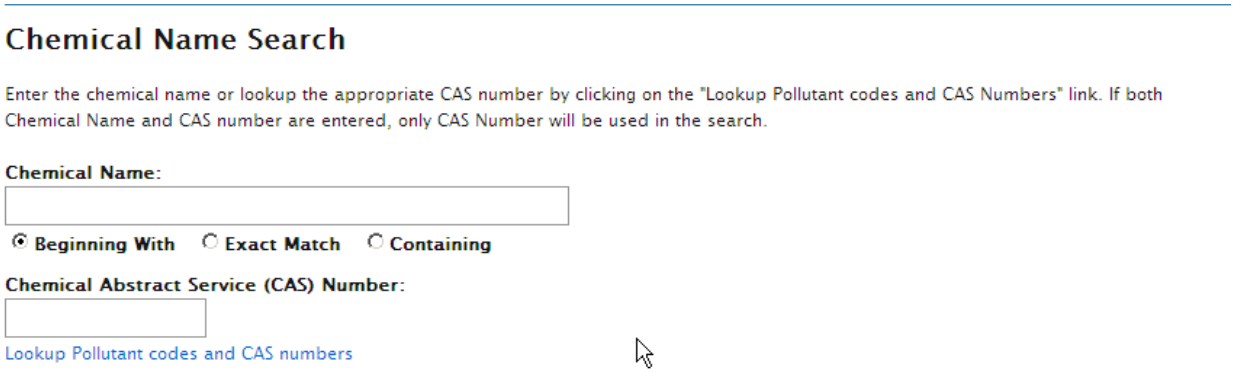
The above information can be downloaded to a CSV file by clicking the **"Output to CSV File"** button below the information. Click on the blue numerical link that appears and then click "Save," then rename the file to something meaningful to you and save to an appropriate location on your hard drive. Once saved, you can convert it to an Excel workbook. More detailed instructions are under **EZ-Query.**

NAICS / SIC Search

If you are interested in a specific type of industry, you can search on the SIC / NAICs code you are interested in and pull all facilities in the SIC / NAICs code. However, be aware that some SIC / NAICS codes are broadly defined and may include facilities that do something you are not interested in. So be aware of this situation. Don't forget to narrow your search by a state, city or county.

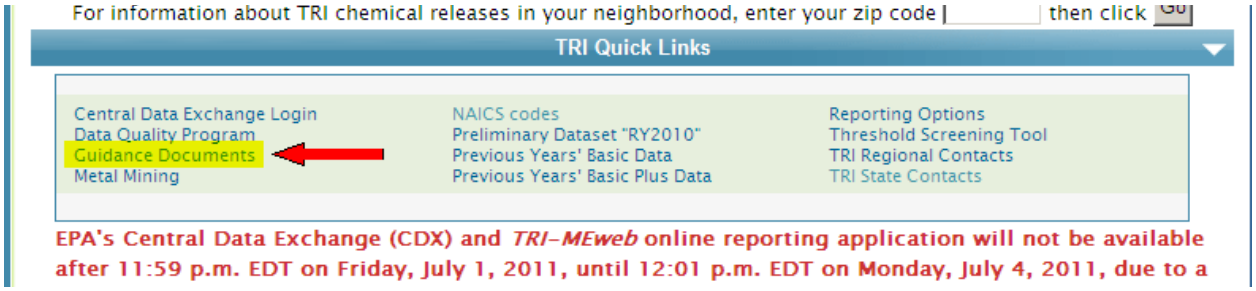


Oftentimes, one is more interested in finding which facilities report for a specific chemical or chemicals. This is easily accomplished by utilizing the chemical search criteria for a specific chemical, and again limiting the extent of the search. If no limiting factors are inputted, the whole United States is searched.

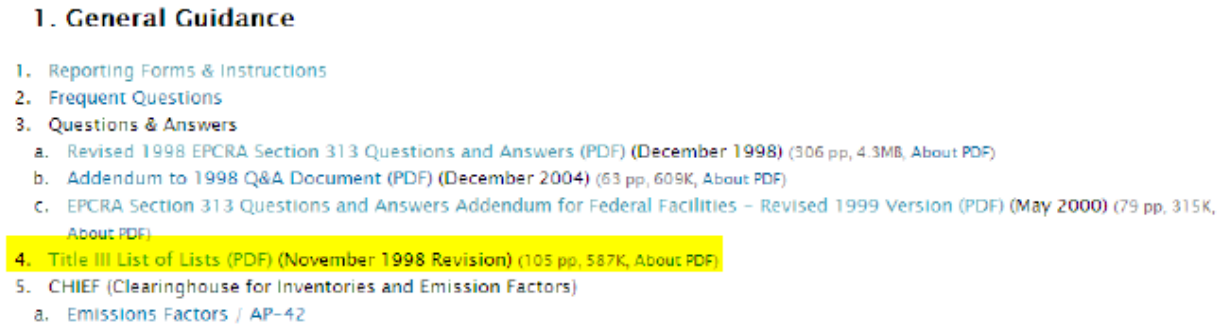


Finding Toxic Chemicals Covered by TRI

First, realize that not every chemical in the world is classified as a toxic 313 chemical. Insure that the chemical you are searching for is in fact a TRI chemical. Also, it is important to note that the list of TRI chemicals is not static, it changes. Chemicals are both added and deleted from the list. To download a pdf of the list of chemicals access the TRI Homepage at: **http://www.epa.gov/tri/**
Toward the middle of the screen, click on "Guidance Documents"



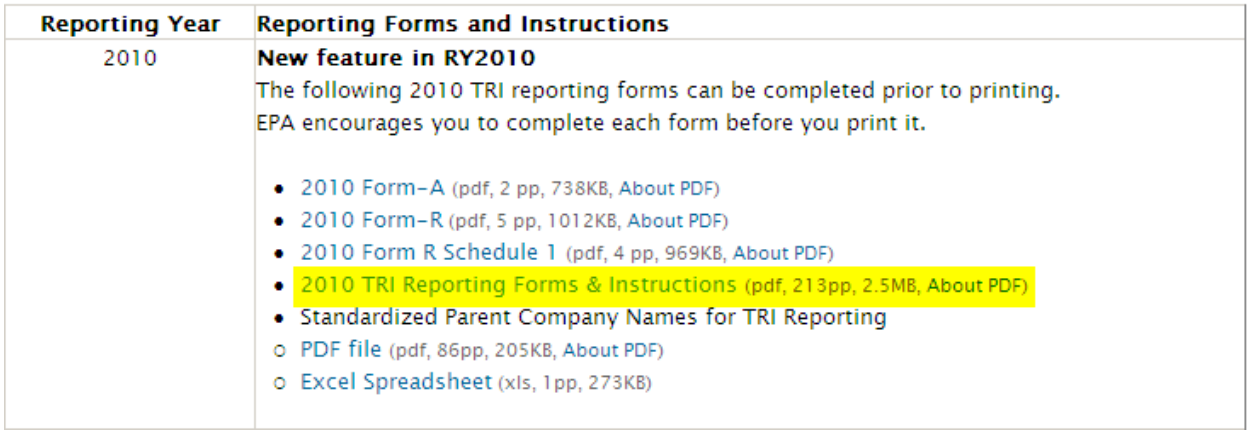
Click on #4, Title III List of Lists, see next page.



However, to insure the chemical is still viable and reportable, the ultimate source is the list of chemicals contained in the most current Form R Instruction booklet. This is also available at the TRI Homepage. On the home screen, on the left side of the screen look for "Reporting Forms and Instructions" and click on it.

Then click on Reporting Forms and Instructions by Reporting year

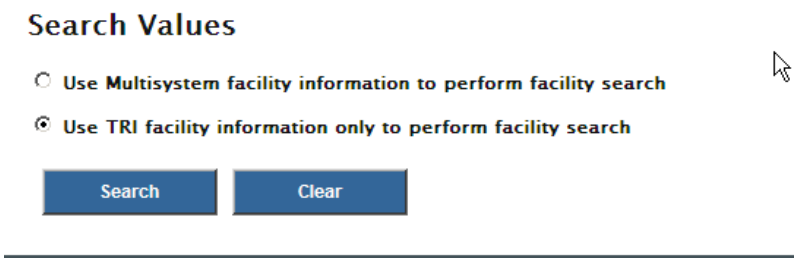
At the time of this writing (August 2011), 2010 is the most recent information so pick the Instructions for 2010 and look in the Appendix for a list of all current toxic 313 chemicals.



Reporting Year	Reporting Forms and Instructions
2010	**New feature in RY2010** The following 2010 TRI reporting forms can be completed prior to printing. EPA encourages you to complete each form before you print it. • 2010 Form-A (pdf, 2 pp, 738KB, About PDF) • 2010 Form-R (pdf, 5 pp, 1012KB, About PDF) • 2010 Form R Schedule 1 (pdf, 4 pp, 969KB, About PDF) • 2010 TRI Reporting Forms & Instructions (pdf, 213pp, 2.5MB, About PDF) • Standardized Parent Company Names for TRI Reporting ○ PDF file (pdf, 86pp, 205KB, About PDF) ○ Excel Spreadsheet (xls, 1pp, 273KB)

Toxic 313 chemical names can be simplistic, for example, toluene. Some can be outrageously complex, for example, dichloro-1,1,2-trifluoroethane. Note the commas and dashes. If the toxic 313 chemical you are searching for has a complex name, or has multiple names, it may be best to search for that chemical using it's CAS (Chemical Abstract Society) number. Each chemical has a unique CAS number, for example, ozone is a toxic 313 chemical and its CAS number is 10028-15-6.

The last option on the Search page is whether or not you want to search for just TRI facilities or you want to search for all EPA regulated facilities in your given search area.



An example of a simple search would be to look at all TRI reporters in Baton Rouge, Louisiana. We'd simply enter Baton Rouge for the City and Louisiana for the state, scroll to the bottom and left click on Search.

Note that we did not specify a year, and in fact there is no option for year in this search. Therefore, we get a list of all facilities that have ever reported to TRI, at any time, for one year of for multiple years. One way to get a feel for active a site has been is to look at the number of submissions.

List of EPA-Regulated Facilities in TRI

TRI FACILITY ID	FACILITY INFORMATION	FACILITY NAME	ADDRESS	COUNTY NAME	SUBMISSIONS
70805LBMRLGULFS	View Facility Information	ALBEMARLE CORP	GULF STATES RD AT KCS RAILROAD BATON ROUGE, LA 70805	EAST BATON ROUGE	144
70805SHLND11109	View Facility Information	ASHLAND DISTRIBUTION CO	11109 S CHOCTAW DR BATON ROUGE, LA 70815	EAST BATON ROUGE	71
70809GLFCS10000	View Facility Information	BATON ROUGE COCA-COLA BOTTLING CO	10000 DAWNADELE AVE BATON ROUGE, LA 708092586	EAST BATON ROUGE	17
70807XXNCH11675	View Facility Information	BATON ROUGE PLASTICS PLANT	11675 SCOTLAND AVE BATON ROUGE, LA 70807	EAST BATON ROUGE	267
70807BYCTN12710	View Facility Information	BAYOU COATING LLC	12710 LEISURE RD BATON ROUGE, LA 70807	EAST BATON ROUGE	16
70818BHRNS11212	View Facility Information	BEHRENS REPACKERS	11212 HOOPER RD BATON ROUGE, LA 70818	EAST BATON ROUGE	10

Not always, but usually the lower the number means the facilities actively reported in the past but no longer report. However, to be certain, you must access the facility information to see which years they reported for. I could be the facility is fairly new and has just begun to report.

Look at the last facility above – Behrens. They've submitted just 10 reports. **<u>To access the facility information click on the TRIFID, that is the first column of number</u>**.

The first part of the information is about the facility name, address, SIC/NAICS codes etc. Scroll further down and we can see the facility only reported for zinc and it appears they stopped reporting in 1995.

Chemical Name	Media	Unit Of Measure	1996	1995	1994	1993	1992	1991	1990	1989	1988	1987
ZINC (FUME OR DUST) (TRI Chemical ID: 007440666)	AIR FUG	Pounds	NR	250	250	250	250	250	250	250	250	0
ZINC (FUME OR DUST) (TRI Chemical ID: 007440666)	AIR STACK	Pounds	NR	250	250	250	250	250	250	250	250	0
ZINC (FUME OR DUST) (TRI Chemical ID: 007440666)	DISP NON METALS	Pounds	NR	250	250	250	250	250	250	250	250	0

The information on this page cannot be downloaded electronically, per se, it is meant to be viewed visually on the computer. However, you can do a **file > print**, to print out all the information in hard copy form.

<u>Viewing Form R's in Envirofacts for a Specific Chemical</u>

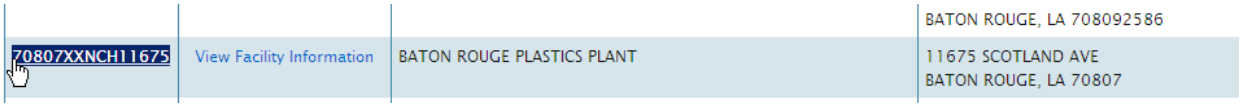
On the general review page, what was pulled up above, we can see a synopsis of all chemicals reported and releases, but we may want more specific information regarding a certain toxic 313 chemical at the facility, that is, information contained on the Form R.

First, find the particular facility you are interested in by any of the above search methods. We want to copy the TRIFID and use the TRIFID to find the Form R's for a particular year. There are three (3) ole DOS commands that still work are important to have in order to make your computer searches easier:

Ctrl C – copy
Ctrl X – cut
Ctrl V – paste

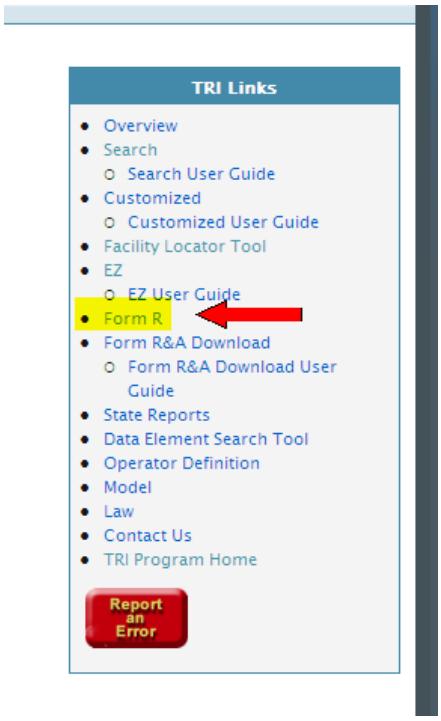
In the list of facilities you retrieved from a search on Baton Rouge, Louisiana, you want to look at Form R's for 2007 for Baton Rouge Plastics Plant.

Note the position of my cursor above – just to the right of the TRIFID. Hold down the left mouse button and highlight the TRIFID. This may take some practice and where to exactly place the cursor and when to push down on the left mouse button, however it saves much time in typing in all those numbers and letters.

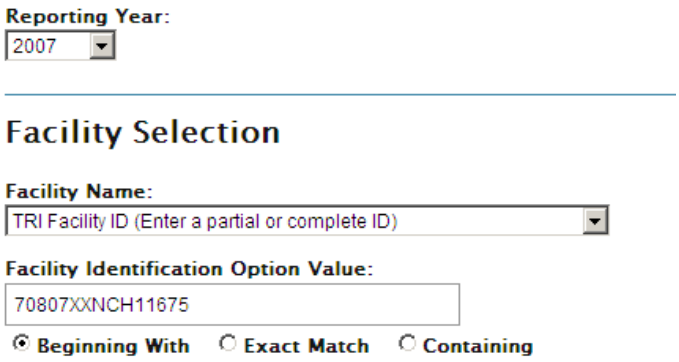


With the TRIFID highlighted, press and hold the Ctrl button, and then tap and let go of the "C" key and then the Ctrl key, to copy the TRIFID.

Scroll back to the top of the present screen and look to the right. Click on "Form R" See below.



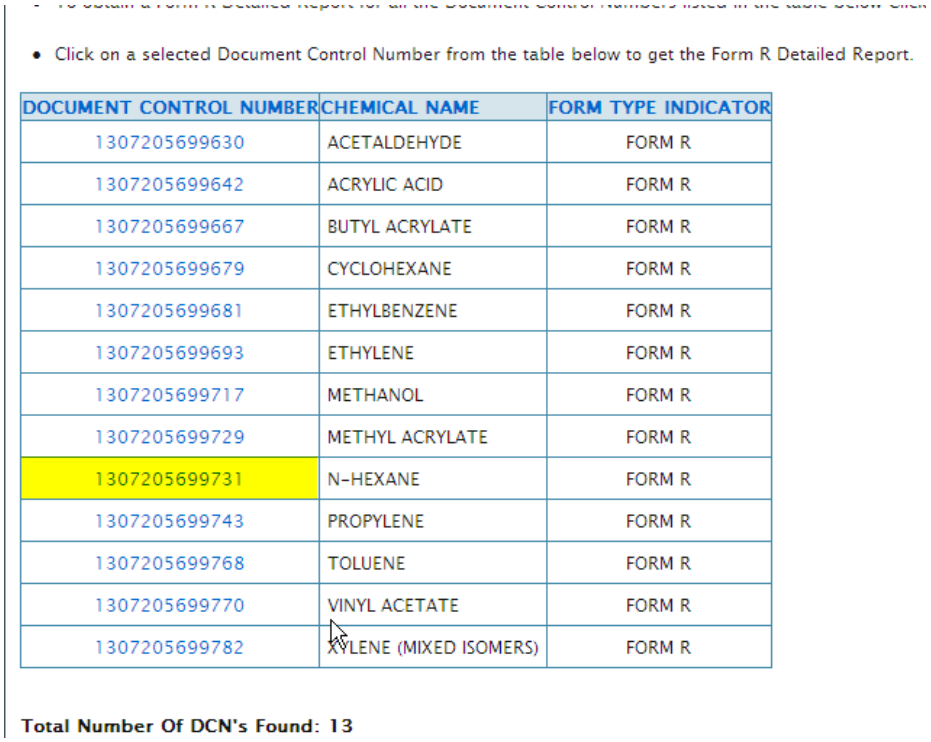
When the Form R screen opens, use the down arrow to select 2007 reporting year, click the down arrow under Facility Name and select TRI Facility ID, and lastly, place your cursor in the facility ID box, left click, and the press **Ctrl V** to paste the TRIFID into the box (see below).



Scroll to bottom of the screen and click “Run Report”

What appears is a list of all Forms that were submitted for that facility, for that year.

If you see a “Form A” in the last column, that Form is merely a certification statement that the facility had less than 500 pounds of releases. It has no detailed information as the Form R does. Facilities may use the shorter Form A only if they meet certain conditions (contact EPA Region 6 if you want specifics on Form A requirements). Conditions have also changed over the years.



- Click on a selected Document Control Number from the table below to get the Form R Detailed Report.

DOCUMENT CONTROL NUMBER	CHEMICAL NAME	FORM TYPE INDICATOR
1307205699630	ACETALDEHYDE	FORM R
1307205699642	ACRYLIC ACID	FORM R
1307205699667	BUTYL ACRYLATE	FORM R
1307205699679	CYCLOHEXANE	FORM R
1307205699681	ETHYLBENZENE	FORM R
1307205699693	ETHYLENE	FORM R
1307205699717	METHANOL	FORM R
1307205699729	METHYL ACRYLATE	FORM R
1307205699731	N-HEXANE	FORM R
1307205699743	PROPYLENE	FORM R
1307205699768	TOLUENE	FORM R
1307205699770	VINYL ACETATE	FORM R
1307205699782	XYLENE (MIXED ISOMERS)	FORM R

Total Number Of DCN's Found: 13

As in the list of facilities, click on the far left hand DCN (Document Control Number) to access the Form R, for example N-Hexane. As in Envirofacts, you cannot electronically download this file, but you can do a **File > Print**.

Downloading a Form R/A Electronically

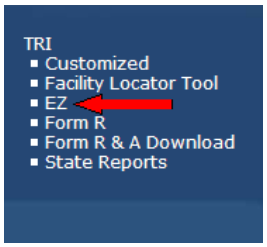
This option is currently being revised. When it has been revised and functional, this section will be updated.

Utilizing EZ Query Within Envirofacts

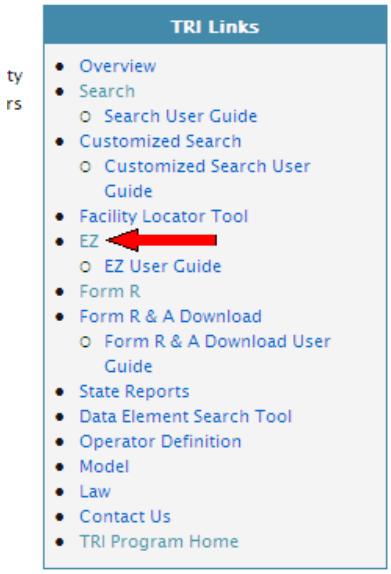
Sometimes specific TRI information is needed on a large population of facilities that meet certain requirements. This information can be extracted from the database and downloaded in a CSV format into an Excel spreadsheet and then converted into a “normal” spreadsheet format.

The overall methodology for data extraction using EZ Query is the fact that any item you want to vary, like chemical, or years reported, or item reported, or air releases, need to be left blank in the search options. Items you want to be fixed and not vary are filled in.

EZ Query can be accessed from the main Envirofacts Homepage under TRI:



Or, if you are already in the Search page, you can access EZ Query from the same location you found Form R's – look to the right of the upper screen.



A large number of options exist in EZ-Query, part of which, are releases to the environment. This is the same information contained on the Form R for a particular toxic chemical, for a particular facility, included in a NAICS code search, or geographic search.

The major categories covered in EZ-Query for reports are shown below from a "cut & paste."

Facility Information
Toxic Chemical Releases to the Environment
Toxic Chemical Transfers
Combined Releases and Transfers
Source Reduction and Recycling
Summaries
Dioxin and Dioxin-like Compounds - Schedule One Data and TEQ Amounts
Specialized Views for Downloading

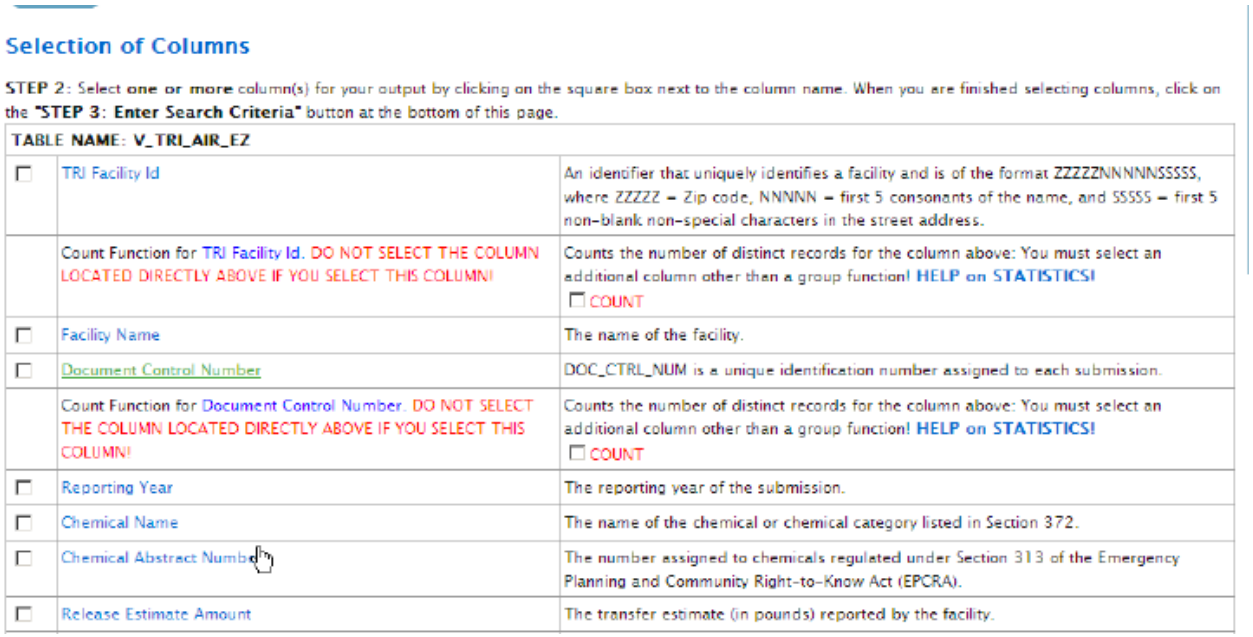
Under the second option the various reporting types of information are shown below.

Toxic Chemical Releases to the Environment	
Chemical Discharge to Water	Total annual toxic chemical release to each receiving surface body of water.
Chemical Release to Air	Total annual toxic chemical air emissions.
Chemical Release to Land	Total annual toxic chemical release to land.
Chemical Underground Injection	Total annual toxic chemical amount injected into all on-site wells.
Off Site Transfers for Disposal	Total annual toxic chemical amount transferred to other sites for disposal.
Combined Releases	**All chemical releases** for a facility. Categorized by release category type (WATER,
Releases - Brief	**A brief view** of release information for a facility.
Releases - Extended	**An extended view** of release information for a facility.
Releases - Complete	**A complete view** of release information for a facility.

The report which contains the most diverse number of options is at the very bottom of the list – the flat files.

Production Related Waste	Source Reduction and Recycling Activities for Dioxin and Dioxin-like compounds (current year only)
Specialized Views for Downloading	
Flat (Denormalized) Form R	A "flat" view of the TRI database that contains a majority of the available TRI information.

The general format for data selection is simply “checking” the boxes, on the left of screen, next to the information you would like to retrieve. Below is checked Facility Name, Reporting Year, Chemical Name, Street Address, City Name, etc. More often than not, releases of toxic chemicals to air are deemed the most important with respect to a transport pathway to affect human health. Click on **Chemical Releases to Air.** The first few options which appear on the screen are show below:



Selection of Columns

STEP 2: Select **one or more** column(s) for your output by clicking on the square box next to the column name. When you are finished selecting columns, click on the **"STEP 3: Enter Search Criteria"** button at the bottom of this page.

TABLE NAME: V_TRI_AIR_EZ		
☐	TRI Facility Id	An identifier that uniquely identifies a facility and is of the format ZZZZZNNNNNSSSSS, where ZZZZZ = Zip code, NNNNN = first 5 consonants of the name, and SSSSS = first 5 non-blank non-special characters in the street address.
	Count Function for TRI Facility Id. DO NOT SELECT THE COLUMN LOCATED DIRECTLY ABOVE IF YOU SELECT THIS COLUMN!	Counts the number of distinct records for the column above: You must select an additional column other than a group function! HELP on STATISTICS! ☐ COUNT
☐	Facility Name	The name of the facility.
☐	Document Control Number	DOC_CTRL_NUM is a unique identification number assigned to each submission.
	Count Function for Document Control Number. DO NOT SELECT THE COLUMN LOCATED DIRECTLY ABOVE IF YOU SELECT THIS COLUMN!	Counts the number of distinct records for the column above: You must select an additional column other than a group function! HELP on STATISTICS! ☐ COUNT
☐	Reporting Year	The reporting year of the submission.
☐	Chemical Name	The name of the chemical or chemical category listed in Section 372.
☐	Chemical Abstract Numbe	The number assigned to chemicals regulated under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA).
☐	Release Estimate Amount	The transfer estimate (in pounds) reported by the facility.

Example 1

Let's presume I'm interested in seeing all the facilities in the U.S. that reported for benzene between 2009 and 2010 (preliminary 2010 data became available July 29, 2011), and see how much was reported as fugitive and stack releases (Total Air Releases). Say, I'm only interested in Louisiana.

Once all the appropriate search criteria boxes are checked,

TRIFID
Facility Name
Reporting Year
Chemical Name
Street Address
City Name
State Abbreviation
Total Releases (air – on-site)

scroll all the way to the bottom of the screen and click on Step 3**, "Enter Search Criteria."**

The Search Criteria screen opens:

<< Return

STEP 3: Enter Search Criteria and Organize the Output

Output Options for Selected Columns

Column Name	Operator Definition	Search Value	Column Display Order	Sort Column	Sort Order	Where Only
TRI Facility Id	Equal to				Ascending	
Facility Name	Equal to				Ascending	
Reporting Year	Equal to				Ascending	
Chemical Name	Equal to				Ascending	
Street Address	Equal to				Ascending	
City Name	Equal to				Ascending	
State Abbreviation	Equal to	1. List All State Abbreviation(s)			Ascending	
Total Release	Equal to				Ascending	

Search Database | Reset | Output to CSV File *

Remember, any items we want to vary, we leave blank. Also we can dictate which column the data are displayed in by placing a number in "Column Display Order" if we'd like. Likewise, we can sort the way the data is output. If you search on multiple years it makes sense to sort on year and if one is searching on multiple chemicals, to perhaps sort on those so one can spot missing chemicals from year to year. All input is highlighted in yellow below, sorted the Total Releases in Descending order.

<< Return

STEP 3: Enter Search Criteria and Organize the Output

Output Options for Selected Columns

Column Name	Operator Definition	Search Value	Column Display Order	Sort Column	Sort Order	Where Only
TRI Facility Id	Equal to				Ascending	
Facility Name	Equal to				Ascending	
Reporting Year	Greater than/Equal to	2009			Ascending	
Chemical Name	Equal to	Benzene			Ascending	
Street Address	Equal to				Ascending	
City Name	Equal to				Ascending	
State Abbreviation	Equal to	LA 1. List All State Abbreviation(s)			Ascending	
Total Release	Equal to			1	Descending	

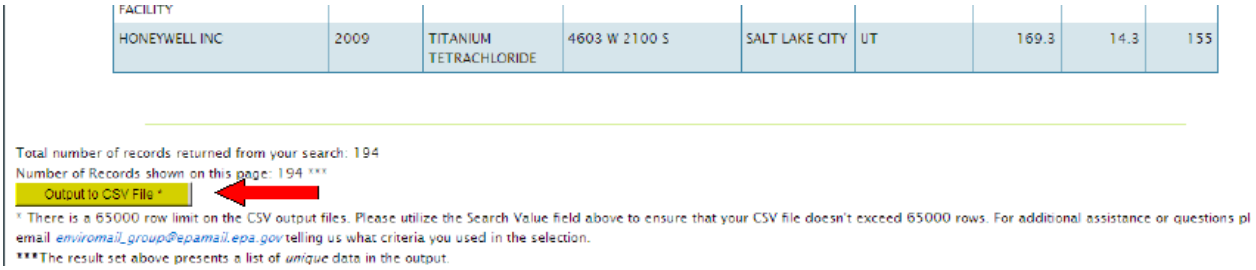
Search Database | Reset | Output to CSV File *

Click on Search Database. In a short amount of time the search is completed and the results are displayed. See partial screen shot below.

Here's a snip-it of the data – the first several rows are blank for some reason but then the data begins with CITGO and, as we have selected, it is sorted in a descending order. The units are in pounds for the year specified.

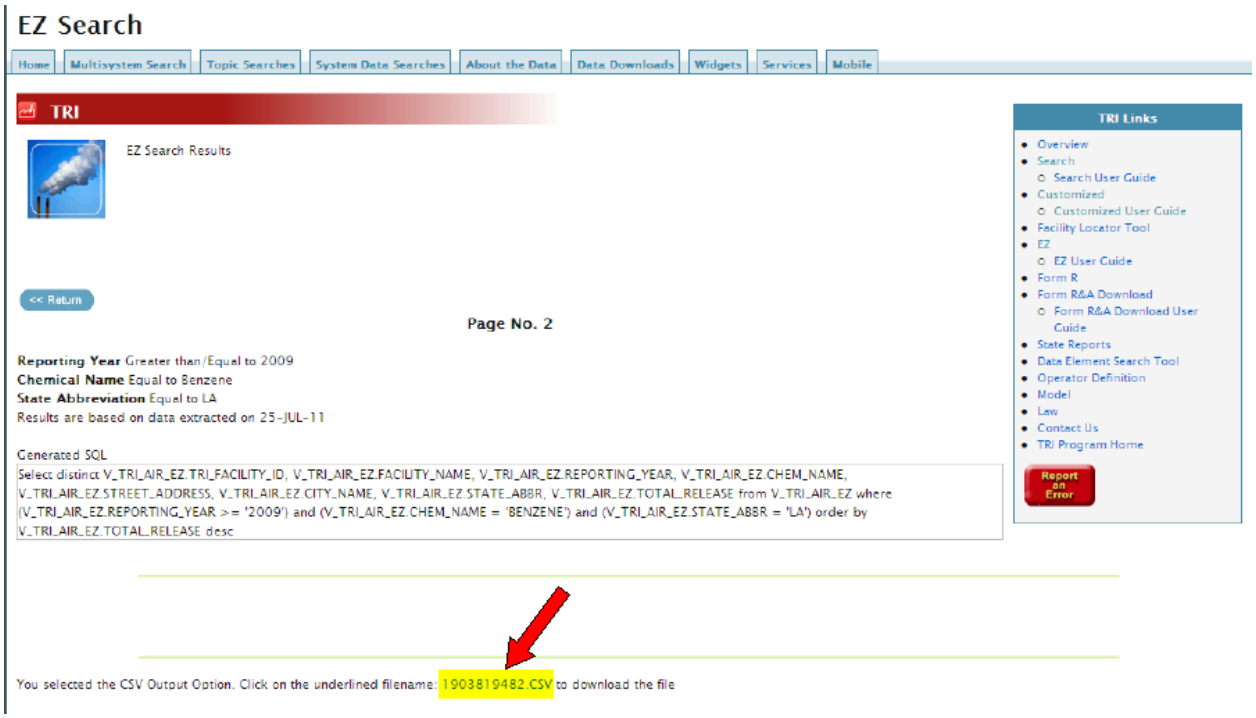
70562SHLND2MILE	EVONIK INDUSTRIES - IVANHOE CARBON BLACK PLANT	2009	BENZENE	7095 LA HWY 83	FRANKLIN	LA	
70767NTRPR2220N	ENTERPRISE PRODUCTS OPERATING LLC	2009	BENZENE	2220 N RIVER RD	PORT ALLEN	LA	
70805FRMSPGULFS	FORMOSA PLASTICS CORP LOUISIANA	2009	BENZENE	GULF STATES RD	BATON ROUGE	LA	
70602CTGPTHIGHW	CITGO PETROLEUM CORP	2009	BENZENE	4401 HWY 108	WESTLAKE	LA	39329
70037LLNCRHIGHW	CONOCOPHILLIPS CO - ALLIANCE REFINERY	2009	BENZENE	15551 HWY 23	BELLE CHASSE	LA	36000
70037LLNCRHIGHW	CONOCOPHILLIPS CO - ALLIANCE REFINERY	2010	BENZENE	15551 HWY 23	BELLE CHASSE	LA	34000
70079SHLLL1205R	SHELL NORCO CHEMICAL PLANT EAST SITE	2010	BENZENE	15536 RIVER RD LOT 1	NORCO	LA	31178
70602CTGPTHIGHW	CITGO PETROLEUM CORP	2010	BENZENE	4401 HWY 108	WESTLAKE	LA	30514
70079SHLLL1205R	SHELL NORCO CHEMICAL PLANT EAST SITE	2010	BENZENE	15536 RIVER RD LOT 1	NORCO	LA	24649
70079SHLLL1205R	SHELL NORCO CHEMICAL PLANT EAST SITE	2009	BENZENE	15536 RIVER RD LOT 1	NORCO	LA	21121

This data can be downloaded to a spreadsheet. Scroll to the very bottom of the output.

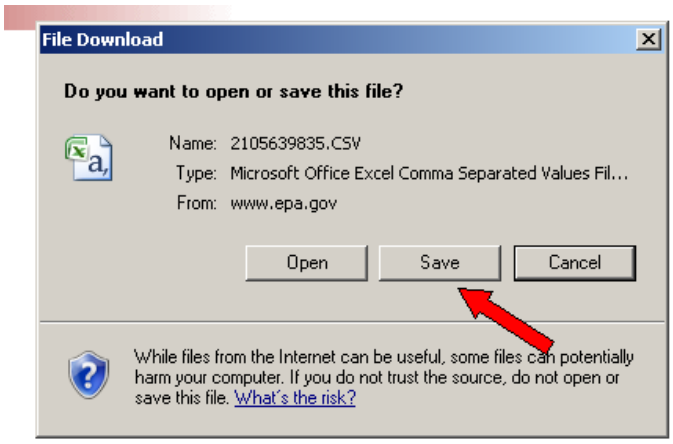


Click on "Output to CSV File"

At the next screen click on the blue numerical file name.

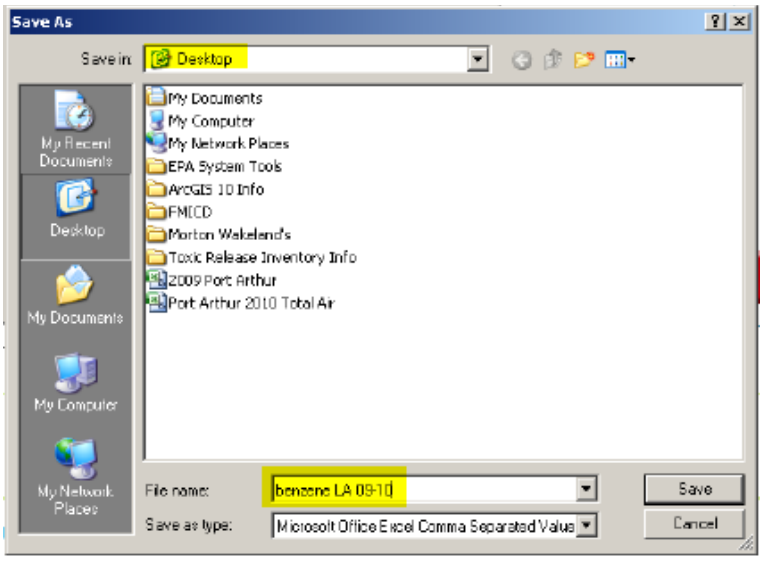


After clicking on the file name (see below) you'll be asked what to do with the file, obviously we want to save the file – click "Save."

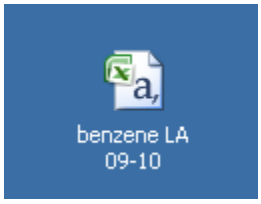


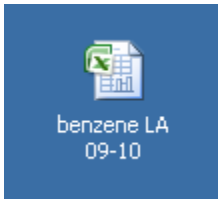
After clicking on "Save" you have the option to select where you want to save the file to. I normally pick my Desktop and then move it where I want.

Before clicking "Save" be sure to change the filename to something meaningful, otherwise you may have a tough time recognizing what it is after it's been downloaded. The name I chose here is "benzene LA 09-10"



Find the file, where ever you saved it, open it, and then save as an Excel workbook. Note the difference between the two icons, CSV file is on the left and is what is originally downloaded, and the re-saved Excel Workbook file is on the right.





Remember, in EZ-Query, at the very bottom of all the options is the Flat Files. There are numerous options to select from. However, you may find what you are looking for in one of the other reporting options in EZ-Query. Whatever option you use, the methodology for searching and downloading is the same.

Example 2

Perhaps I'm also interested in seeing if a facility filed their forms on time for a particular RY, and if perhaps, they filed for a particular chemical of interest.

Access EZ-Query as previously explained within Envirofacts. Once at the home screen you want to select **"Submissions."**

Step 1: Start by selecting one view to be the focus of your search.

Facility Information	
Facility Information	Address and other location information about the facility.
Submissions	Toxic Chemical Release Inventory Reporting Form (EPA Form R) information and Facility Information
Toxic Chemical Releases to the Environment	
Chemical Discharge to Water	Total annual toxic chemical release to each receiving surface body of water.
Chemical Release to Air	Total annual toxic chemical air emissions.
Chemical Release to Land	Total annual toxic chemical release to land.

To reiterate briefly, to be sure you select only the facility you are interested in, utilize the TRIFID to search on. Therefore, open another tab on the internet and find the facility in Envirofacts. When you begin to enter the search criteria you can copy the TRIFID into the search criteria box.

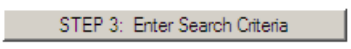
As before, check the box next to the option you want in your output. Due to the fact some of these options are screen's distance apart, that is other options are between them, I'm just going to paste in the options I have selected from the list.

STEP 2: Select **one or more** column(s) for your output by clicking on the the **"STEP 3: Enter Search Criteria"** button at the bottom of this page.

TABLE NAME: V_TRI_SUBMISSIONS_EZ	
☑	TRI Facility Id
☑	Facility Name
☑	Reporting Year
☑	Chemical Name
☑	Street Address
☑	City Name
☑	State Abbreviation
☑	Orig Postmark

NOTE: There are several postmark options. Only choose "Orig Postmark." This option is down quite a distance from the last option you selected, that is, "State Abbreviation."

After checking the last option, scroll to the bottom of the screen and click **Step 3: Enter Search Criteria.**



The amount of physical input is very minor for this type of search.

<< Return

STEP 3: Enter Search Criteria and Organize the Output

Output Options for Selected Columns

Column Name	Operator Definition	Search Value	Column Display Order	Sort Column	Sort Order	Where Only
TRI Facility Id	Equal to	77507WLCHM11200			Ascending	
Facility Name	Equal to				Ascending	
Reporting Year	Greater than/Equal to	2006		1	Ascending	
Chemical Name	Equal to				Ascending	
Street Address	Equal to				Ascending	
City Name	Equal to				Ascending	
State Abbreviation	Equal to	1. List All State Abbreviation(s)			Ascending	
Orig Postmark	Equal to	The date must be entered completely in MON-DD-YYYY format (eg. JUN-23-1989)			Ascending	

Search Database | Reset | Output to CSV File *

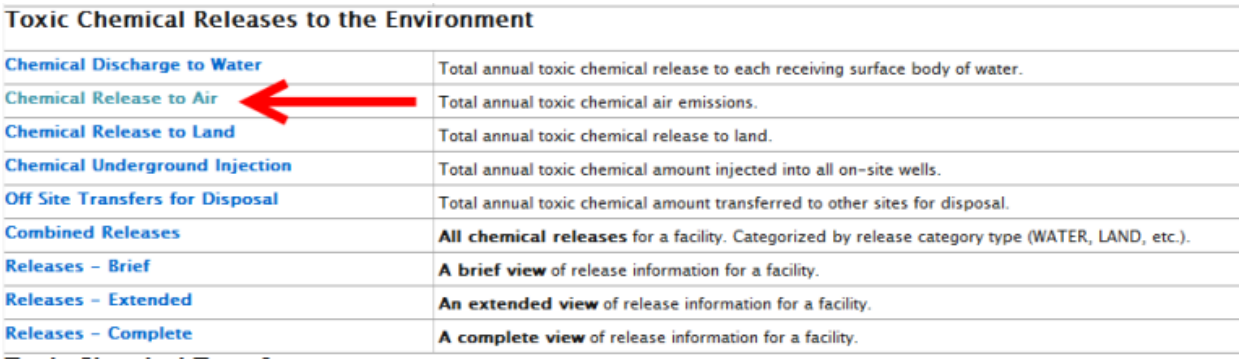
I simply found a TRIFID at random for this example, indicated I wanted to see when they submitted forms for each chemical they reported for, and because I have more than one year I'm searching on, I want to sort by year. Once you have entered that input parameters click **"Search Database."**

TRI Facility Id	Facility Name	Reporting Year	Chemical Name	Street Address	City Name	State Abbreviation	Orig Postmark
77507WLCHM11200	CLEAR LAKE CHEMICALS LLC	2006	CERTAIN GLYCOL ETHERS	11200 BAY AREA BLVD	PASADENA	TX	JUN-26-2007
77507WLCHM11200	CLEAR LAKE CHEMICALS LLC	2006	DIETHYL SULFATE	11200 BAY AREA BLVD	PASADENA	TX	JUN-26-2007
77507WLCHM11200	CLEAR LAKE CHEMICALS LLC	2007	BENZYL CHLORIDE	11200 BAY AREA BLVD	PASADENA	TX	JUN-17-2008
77507WLCHM11200	CLEAR LAKE CHEMICALS LLC	2007	CERTAIN GLYCOL ETHERS	11200 BAY AREA BLVD	PASADENA	TX	JUN-17-2008
77507WLCHM11200	CLEAR LAKE CHEMICALS LLC	2007	DIETHYL SULFATE	11200 BAY AREA BLVD	PASADENA	TX	JUN-17-2008
77507WLCHM11200	CLEAR LAKE CHEMICALS LLC	2008	DIETHYL SULFATE	11200 BAY AREA BLVD	PASADENA	TX	JUN-15-2009
77507WLCHM11200	CLEAR LAKE CHEMICALS LLC	2008	BENZYL CHLORIDE	11200 BAY AREA BLVD	PASADENA	TX	JUN-15-2009
77507WLCHM11200	CLEAR LAKE CHEMICALS LLC	2008	CERTAIN GLYCOL ETHERS	11200 BAY AREA BLVD	PASADENA	TX	JUN-15-2009
77507WLCHM11200	CLEAR LAKE CHEMICALS LLC	2009	DIETHYL SULFATE	11200 BAY AREA BLVD	PASADENA	TX	JUN-28-2010
77507WLCHM11200	CLEAR LAKE CHEMICALS LLC	2009	CERTAIN GLYCOL ETHERS	11200 BAY AREA BLVD	PASADENA	TX	JUN-28-2010
77507WLCHM11200	CLEAR LAKE CHEMICALS LLC	2009	BENZYL CHLORIDE	11200 BAY AREA BLVD	PASADENA	TX	JUN-28-2010
77507WLCHM11200	CLEAR LAKE CHEMICALS LLC	2010	BENZYL CHLORIDE	11200 BAY AREA BLVD	PASADENA	TX	JUN-30-2011
77507WLCHM11200	CLEAR LAKE CHEMICALS LLC	2010	DIETHYL SULFATE	11200 BAY AREA BLVD	PASADENA	TX	JUN-30-2011
77507WLCHM11200	CLEAR LAKE CHEMICALS LLC	2010	CERTAIN GLYCOL ETHERS	11200 BAY AREA BLVD	PASADENA	TX	JUN-30-2011

As can be seen from the output, Clear Lake Chemicals has reported each year from 2006 to 2010, and has reported on or before the July 1st deadline. However, at closer inspection we can see that while they reported for benzyl chloride for each year from 2007 to 2010, they did not report for benzyl chloride for 2006. There could be any number of reasons why the facility did not report for that chemical in 2006. Doing the same analysis, except for RY 2000 forward, it appears the facility just began using that chemical consistently in the 2007 calendar year, most likely due to a process change.

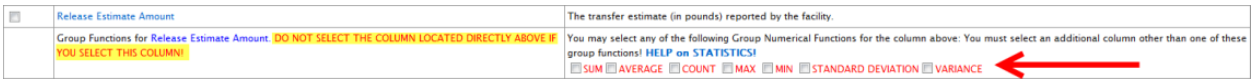
Example 3

In many of the selections in various reports, in EZ-Query, you will note that the selections contain statistical operators in red. For example, within EZ-Query, under **Toxic Chemical Releases to the Environment,** click on "Chemical Releases to Air."



Toxic Chemical Releases to the Environment	
Chemical Discharge to Water	Total annual toxic chemical release to each receiving surface body of water.
Chemical Release to Air	Total annual toxic chemical air emissions.
Chemical Release to Land	Total annual toxic chemical release to land.
Chemical Underground Injection	Total annual toxic chemical amount injected into all on-site wells.
Off Site Transfers for Disposal	Total annual toxic chemical amount transferred to other sites for disposal.
Combined Releases	**All chemical releases** for a facility. Categorized by release category type (WATER, LAND, etc.).
Releases - Brief	**A brief view** of release information for a facility.
Releases - Extended	**An extended view** of release information for a facility.
Releases - Complete	**A complete view** of release information for a facility.

Scanning down the list of options to select from, note that below "Release Estimate Amounts," in the left hand column, there is a Group function under it with no box, but across from it appears a set of statistical operators in red with check boxes.

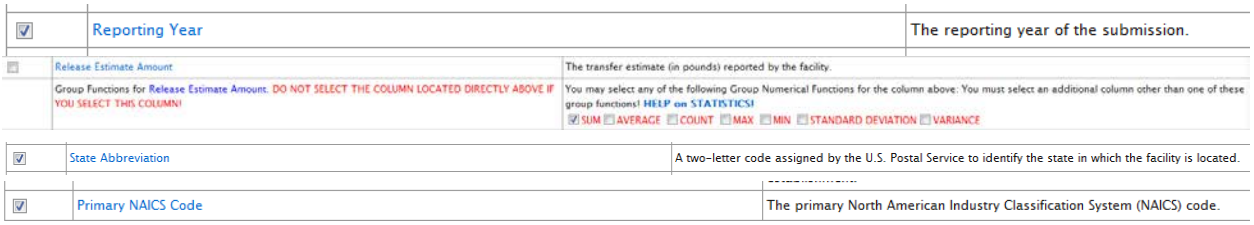


☐	Release Estimate Amount	The transfer estimate (in pounds) reported by the facility.
	Group Functions for Release Estimate Amount. DO NOT SELECT THE COLUMN LOCATED DIRECTLY ABOVE IF YOU SELECT THIS COLUMN!	You may select any of the following Group Numerical Functions for the column above: You must select an additional column other than one of these group functions! HELP on STATISTICS! ☐ SUM ☐ AVERAGE ☐ COUNT ☐ MAX ☐ MIN ☐ STANDARD DEVIATION ☐ VARIANCE

Importantly, if you select one of the statistical operators, DO NOT select the individual operator box to the left of "Release Estimate Amounts."

What are these functions used for? If, for example, one wanted to obtain the releases to air of all chemicals from each state, from a certain group of reporters, e.g. electric generating facilities that use fossil fuel (NAICS code = 221112) then

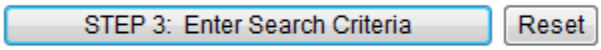
one would click on the **"SUM"** box rather than the "Release Estimate Amounts" box in the left hand column. If you wanted the release amounts from specific facilities then you would check the left hand most box. To obtain the aforementioned information on all states the boxes checked under the "Chemical Releases to Air" would look like.



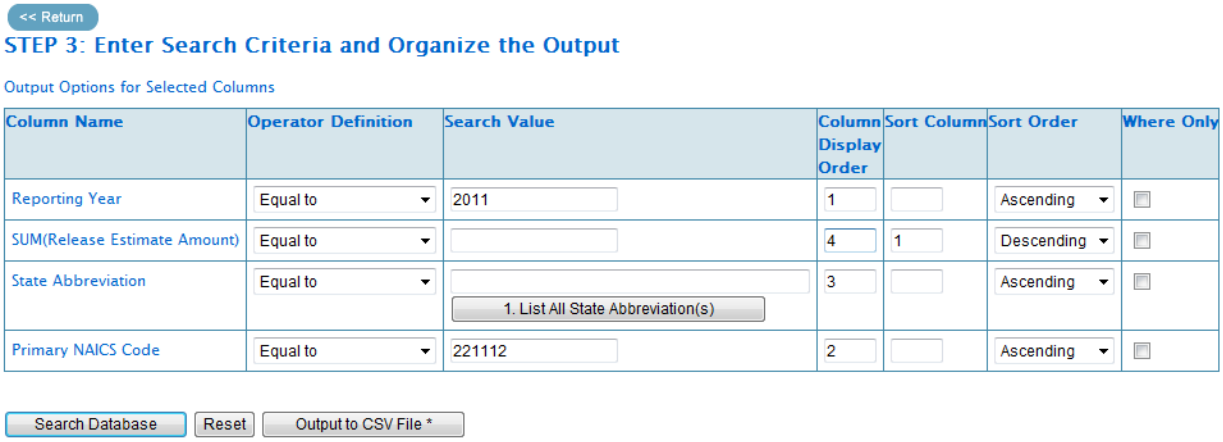
NOTE: As of this writing, NAICS codes for various industries can be found on the U.S. Census Bureau's website:

http://www.census.gov/eos/www/naics/concordances/concordances.html

After the boxes have been checked, scroll to the bottom of the selection screen and click on "Enter Search Criteria" to enter the appropriate data for your search.



The input screen for your search will look like:



There are a number of options. To reiterate, the only information you want to enter is that which you want to be constant, e.g., the search year, in this case the most recent data is 2011, and the NAICS code of the industry you are searching, in

this cae 221112. Rather than entering the abbreviations for all states, simply leave it blank, EZ-Query understands you want the information by state.

You can also dictate how the data is displayed on the screen – "Column Display Order," and if you want to sort on any column, "Sort Column," and in what order, Ascending / Descending. After you have entered the information, click on "Search Database." Depending on the complexity and extent of your request, it may take a minute or two to complete the search. The output on the screen looks like:

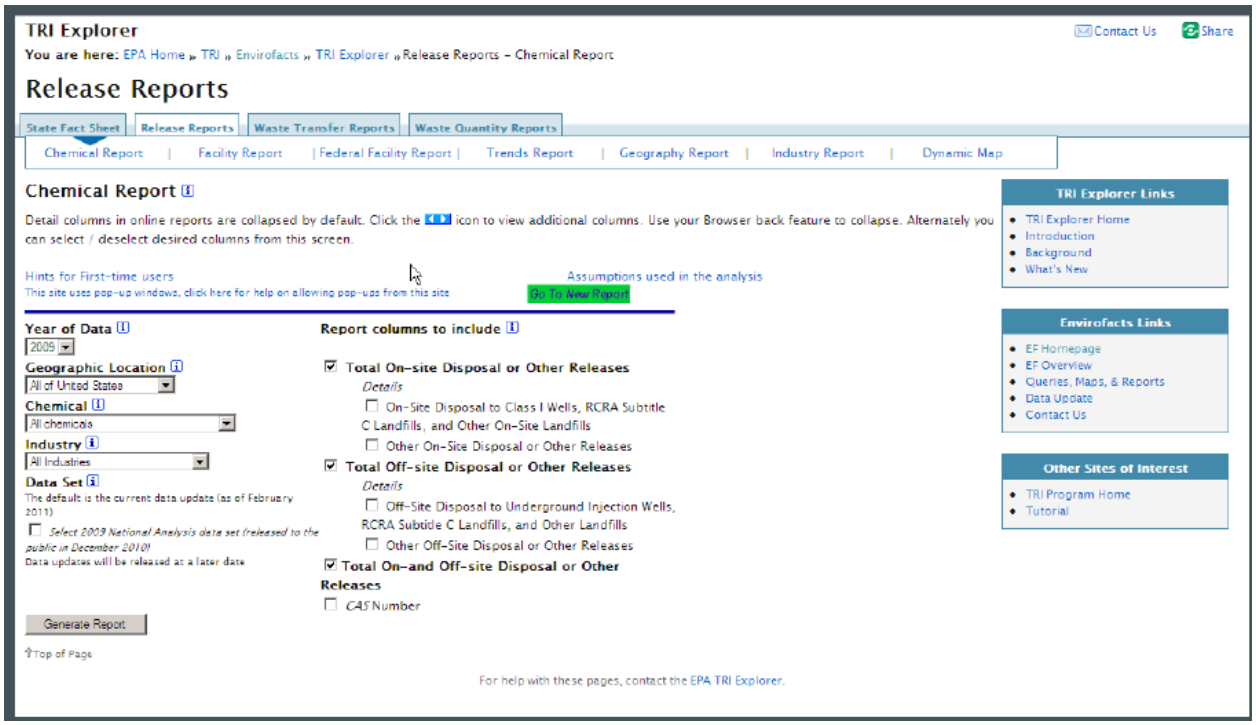
Reporting Year	Primary NAICS Code	State Abbreviation	SUM(Release Estimate Amount)
2011	221112	KY	31008256.878
2011	221112	OH	29840685.9017785
2011	221112	IN	22803932.6983
2011	221112	PA	20366125.0865055
2011	221112	MI	17402849.6753
2011	221112	WV	14609508.5976

As previously covered, one can scroll to the bottom of the screen display and download this data into an Excel worksheet where you can better format the numbers and sort in any fashion you desire.

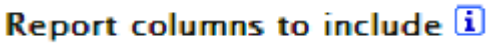
TRI Explorer

http://www.epa.gov/triexplorer/

Unlike Envirofacts, which is more "facility specific," TRI Explorer allows for a broader display of TRI data and allows facility to facility comparisons. In late July 2011, TRI Explorer took on a new look, with some added functionality. The main part of the home screen looks like:

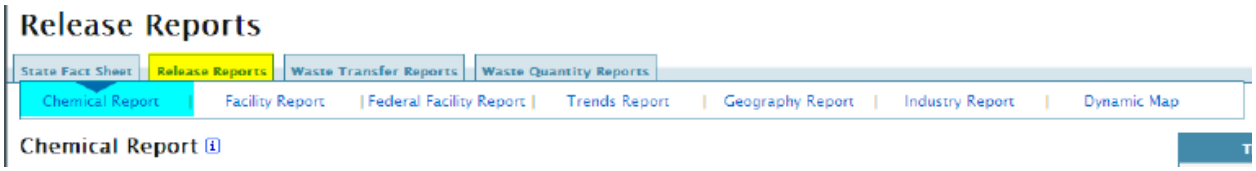


Notice the blue "i" next to some verbiage:



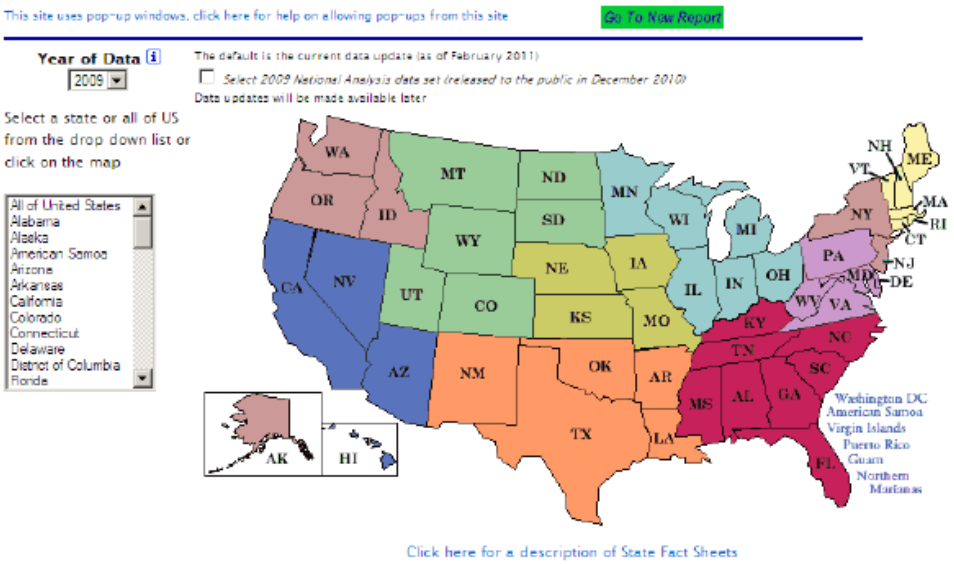
If you want to obtain more information about that subject, click on the "i."

Referring to the top tabs, non-selected ones are in pale blue (L-R): **State Fact Sheet, Release Reports, Waste Transfer Reports, and Waste Quantity Reports.** By default, TRI-Explorer opens up in the **Release Reports** option, with the first report option selected, **Chemical Report:**



Decide what type of report you want to run – **Chemical Report, Facility Report, Federal Facility Report, Trends Report, Geography Report, Industry Report**, or use the **Dynamic Map**. The other two tabs on top – **Waste Transfer and Waste Quantity Reports** have the same report options as shown above. **State Fact Sheets** are just that, concise TRI information about each state. Rather than a

listing of reports, simply click on state of your choice, either on the map or in the list of states to the left, to see the state facts sheet.

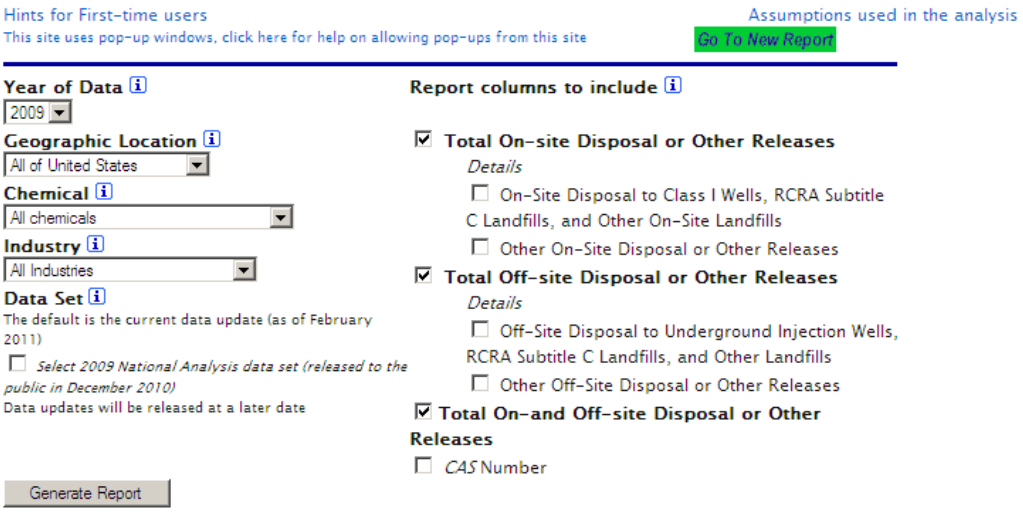


To obtain a copy of the state fact sheet you are viewing, simply click **File > Print.**

Most reports, other than **"Trends,"** are based on a single year. Once the type of report is determined, look over the options (see below) that are available to determine which TRI information you want to extract from the database.

Year of Data
Geographic Location
Chemical
Industry

On the webpage, the options look like:

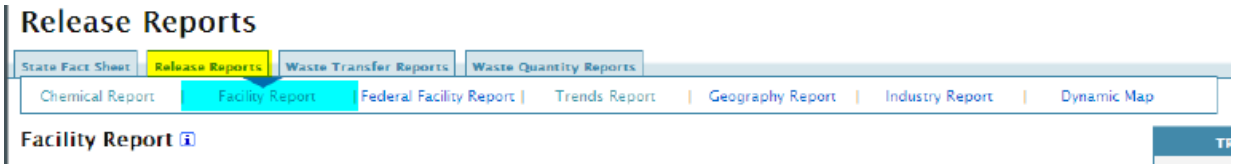


Note that not all the boxes are checked in the far right column. Decide the level of detail you want and then check the boxes appropriately. Unlike Envirofacts, information derived from TRI Explorer can be downloaded to a CSV file and then saved as an Excel Workbook.

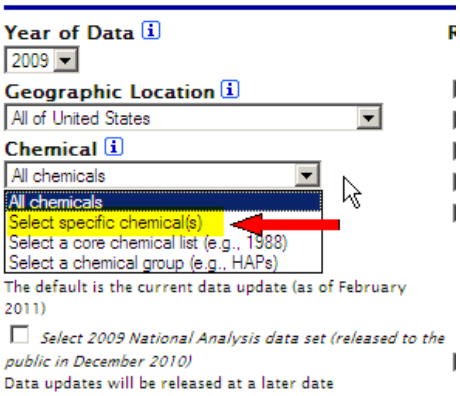
At the time of this writing, preliminary 2010 data has only been uploaded into Envirofacts and is not yet available in TRI Explorer.

Example 1

Let's determine all the facilities, regardless of NAICS code, in the United States that reported for **benzene.** Along the top selection options, click on **Facility Report.**

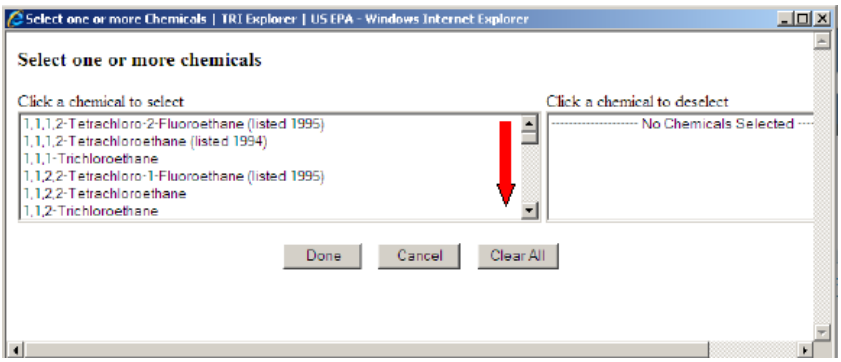


Because we want the entire United States, and all Industries, the only option we have to select from is **Chemical.** Click on the drop down arrow for **Chemical,** and click on the option for **Select specific chemical(s).**

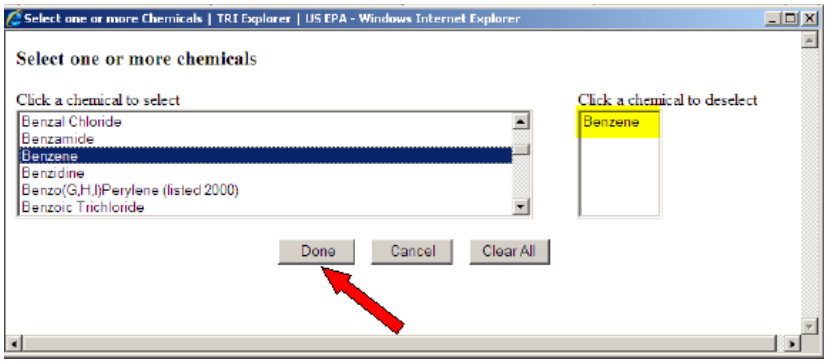


After selecting this option, a chemical list will appear (see below). Using the right scroll bar, pull it down till you see **benzene** listed on the left. If the below screen for selection the chemical does not pop up on your screen, the "look" at the

bottom of your screen under the items you have open for it may be there. If so simply click on it to open and proceed.

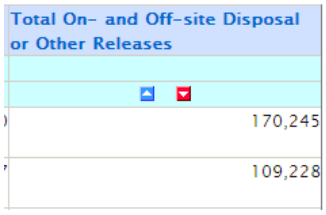


Click on **benzene,** you will see it listed on the right, then click done. If you wanted to select other chemicals, simply scroll to where they are located and click on that chemical. All those selected will be listed in the right hand box:



Once back to the main screen, click on **Generate Report**.

A list will appear that has all facilities in the United States that reported benzene for RY 2009. Note the header information – what is displayed in only the top 100 facilities of 943 facilities. You can tell how the facilities are ranked by noting which **blue up/down arrow box is red.**



We see now that list of facilities is ranked from *highest* **Total On-and Off-site Disposal or Other Releases** to lowest. This includes all releases and therefore the amount of information may shade what you are really after, say only air releases.

TRI On-site and Off-site Reported Disposed of or Otherwise Released (in pounds), top 100 facilities (of 943) for facilities in All Industries, for BENZENE chemical, U.S., 2009
U.S. Top Facilities Type 'ALL' Or Enter a number Go!

Row #	Facility	Total On-site Disposal or Other Releases	Total Off-site Disposal or Other Releases	Total On- and Off-site Disposal or Other Releases
1	CARIBBEAN PETROLEUM REFINING LP.30 RD #28 LUCHETTI INDUSTRIAL PARK, BAYAMON PUERTO RICO 00961 (BAYAMON)	170,245	0	170,245
2	BP PRODUCTS NORTH AMERICA INC TEXAS CITY REFINERY.2401 5TH AVE S, TEXAS CITY TEXAS 77590 (GALVESTON)	109,201	27	109,228
3	EQUISTAR CHEMICALS.8280 SHELDON RD, CHANNELVIEW TEXAS 77530 (HARRIS)	89,572	5,253	94,825
4	SUNOCO INC (R&M) PHILADELPHIA REFINERY.3144 PASSYUNK AVE, PHILADELPHIA PENNSYLVANIA 19145 (PHILADELPHIA)	91,190	1	91,191
5	GEORGIA-PACIFIC BIG ISLAND MILL.9363 LEE-JACKSON HWY, BIG ISLAND VIRGINIA 24526 (BEDFORD)	74,416	0	74,416

Hit the back button on your browser. On the right side of the main query page check the details boxes under **Total On-site Disposal or Other Releases,**

Report columns to include

- ☐ TRIF ID
- ☐ Number of Form Rs
- ☐ Number of Form As (starting 1995)
- ☐ Longitude/Latitude
- ☑ **Total On-site Disposal or Other Releases**
  - *Details*
  - ☑ On-Site Disposal to Class I Wells, RCRA Subtitle C Landfills, and Other On-Site Landfills
  - ☑ Other On-Site Disposal or Other Releases
- ☑ **Total Off-site Disposal or Other Releases**
  - *Details*
  - ☐ Off-Site Disposal to Underground Injection Wells, RCRA Subtitle C Landfills, and Other Landfills
  - ☐ Other Off-Site Disposal or Other Releases
- ☑ **Total On-and Off-site Disposal or Other Releases**

then click on **Generate Report** again. This time a lot more information columns appear on the screen display, the two most important of which are **Fugitive Air and Point Source Air.**

TRI On-site and Off-site Reported Disposed of or Otherwise Released (in pounds), top 100 facilities (of 943) for facilities in All Industries, for BENZENE chemical, U.S., 2009

U.S. Top Facilities Type 'ALL' Or Enter a number [ ] Go!

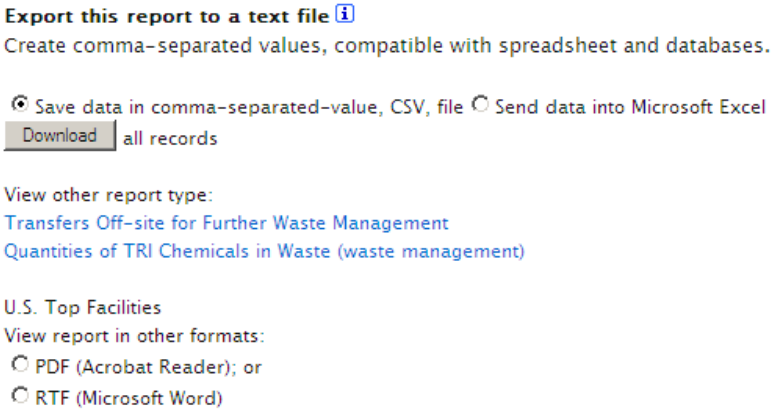
		On-site Disposal to Class I Underground Injection Wells, RCRA Subtitle C Landfills, and Other Landfills				Other On-site Disposal or Other Releases									
Row #	Facility	Underground Injection Class I Wells	RCRA Subtitle C Landfills	Other On-Site Landfills	Sub Total	Fugitive Air Emissions	Point Source Air Emissions	Surface Water Discharges	Underground Injection Class II-V Wells	Land Treatment	RCRA Subtitle C Surface Impoundments	Other Surface Impoundments	Other Land Disposal	Sub Total	Tota On- Disp or O Rele
1	CARIBBEAN PETROLEUM REFINING LP.30 RD #28 LUCHETTI INDUSTRIAL PARK, BAYAMON PUERTO RICO 00961 (BAYAMON)	0	0	0	0	159,004	11,238	3	0	0	0	0	0	170,245	17
2	BP PRODUCTS NORTH AMERICA INC TEXAS CITY REFINERY.2401 5TH AVE S, TEXAS CITY TEXAS 77590 (GALVESTON)	39,000	0	0	39,000	13,000	57,180	21	0	0	0	0	0	70,201	10

Note that the this particular output has not been sorted on either column. To sort the **Fugitive Air** column from highest to lowest releases, under the column heading click on the blue box with the downward facing arrow.

Now that you want to sort any column, from highest to lowest or vice versa, simply click on the appropriate column arrow under the heading.

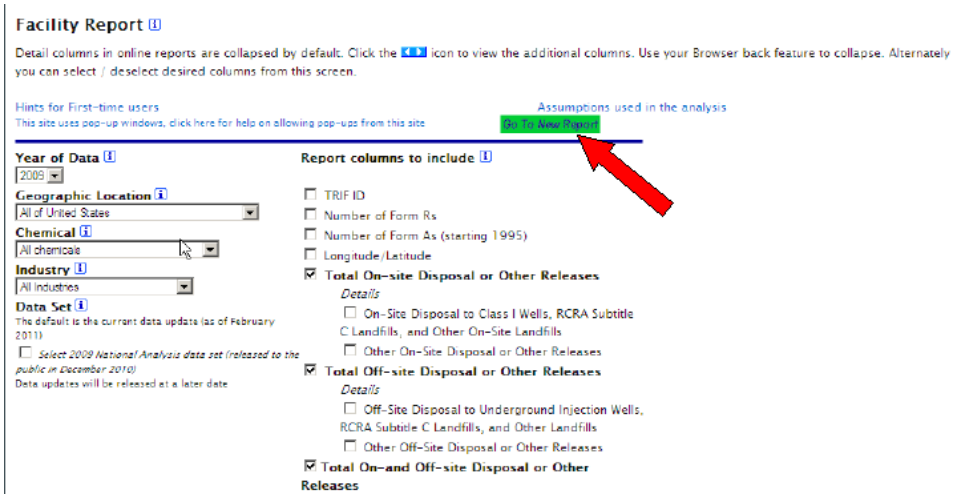
		On-site Disposal to Class I Underground Injection Wells, RCRA Subtitle C Landfills, and Other Landfills				Other On-site Dispo	
Row #	Facility	Underground Injection Class I Wells	RCRA Subtitle C Landfills	Other On-Site Landfills	Sub Total	Fugitive Air Emissions	Point Source Air Emissions
1	CARIBBEAN PETROLEUM REFINING LP.30 RD #28 LUCHETTI INDUSTRIAL PARK, BAYAMON PUERTO RICO 00961 (BAYAMON)	0	0	0	0	159,004	11,238
2	SUNOCO INC (R&M) PHILADELPHIA REFINERY.3144 PASSYUNK AVE, PHILADELPHIA PENNSYLVANIA 19145 (PHILADELPHIA)	0	0	0	0	56,814	34,366
3	DUPONT SABINE RIVER WORKS.FARM RD 1006, ORANGE TEXAS 77631 (ORANGE)	0	0	0	0	42,260	15,706
4	EQUISTAR CHEMICALS.8280 SHELDON RD, CHANNELVIEW TEXAS 77530	0	0	0	0	34,890	54,666

If you want to download ALL the data to a spreadsheet, scroll down to the bottom of the information for this spreadsheet. Unlike the information from the EZ-Query, here you have the option to download the data directly into an Excel spreadsheet, second radio button. In addition you can view the report in different formats.



The procedure for downloading is similar to EZ-Query except there are few steps. Simply click **Download,** then click **Save,** then choose where to put the file, and its filename and click **Save** again and you're done. When you download, you will receive all the facilities, not just what are shown on the screen.

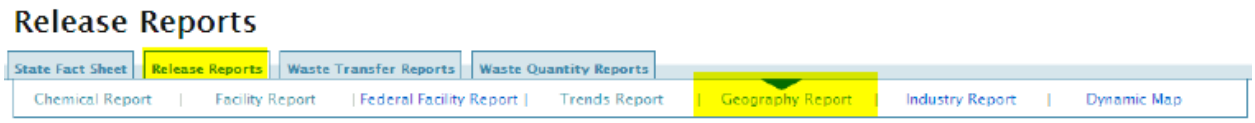
Sometimes if reports seem to be hung up or messing up with your inquiry, go to the home screen and click on **"Go to New Report"** a couple of times to clear out the system.



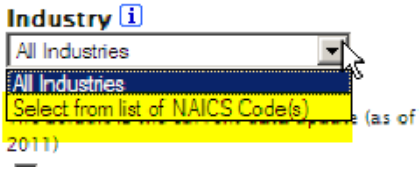
Example 2

Now that we know which facilities are reporting for benzene it might be appropriate to get a "bird's eye" view and run a **Geography Report** to see which states are releasing the most benzene.

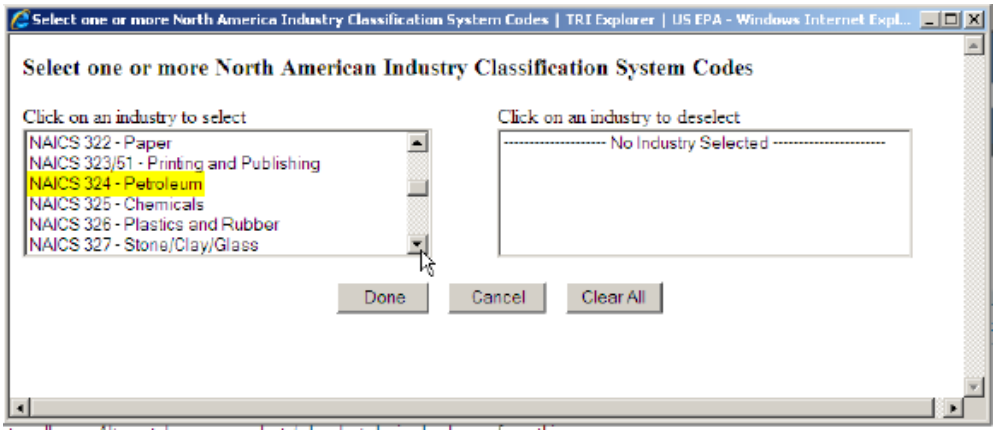
Now, on under the **Releases Report Tab,** pick the **Geography Report:**



Choose **Chemical Released,** and **Select Specific Chemical(s)** and from the list of chemicals select **benzene**. Perhaps now you are only interested in a particular industry sector. So now open the **Industry** option box by clicking on the down arrow.
Click on the **Select from list of NAICS Code(s)** option.



A pop-up menu appears, but only with 3 and 4 digit NAICS codes. The most detailed level in NAICS codes is 6 digits. Therefore, if you are only interested in petroleum refining (old SIC code 2911) that equates to NAICS code 324110.



If we scroll down in the NAICS list, only 324 is displayed (Petroleum and Coal Products Manufacturing). If we were to select this option, not only would we include petroleum refineries, but also, from the NAICS Concordances:

299	324121	Asphalt Paving Mixture and Block Manufacturing	324121	Asphalt Paving Mixture and Block Manufacturing
300	324122	Asphalt Shingle and Coating Materials Manufacturing	324122	Asphalt Shingle and Coating Materials Manufacturing
301	324191	Petroleum Lubricating Oil and Grease Manufacturing	324191	Petroleum Lubricating Oil and Grease Manufacturing
302	324199	All Other Petroleum and Coal Products Manufacturing	324199	All Other Petroleum and Coal Products Manufacturing

Note in each case, the type of industry begin with "324" and thus would be included in your TRI-Explorer search, although you may have no interest in these other industries. The same would be true even it TRI-Explorer had listed a 4 digit code – 3241.

Even scrolling to cement in the list, 3273, once can see that many more types of manufacturing go on besides simple "cement manufacturing" (327310).

369	327310	Cement Manufacturing	327310	Cement Manufacturing
370	327320	Ready-Mix Concrete Manufacturing	327320	Ready-Mix Concrete Manufacturing
371	327331	Concrete Block and Brick Manufacturing	327331	Concrete Block and Brick Manufacturing
372	327332	Concrete Pipe Manufacturing	327332	Concrete Pipe Manufacturing
373	327390	Other Concrete Product Manufacturing	327390	Other Concrete Product Manufacturing

Therefore, at the time of this writing, be cautioned about using TRI-Explorer for Industry sector searching. One can still extract and download the data, and then sort it to only include the type of facilities one is interested in. **Note: in EZ-Query and TRI.NET one can select specific 6 digit NAICS codes.**

For this example, let's presume that the sector beginning with "324" is sufficient for what we want. We click on it, say done, and then **Generate Report.**

Initially, the information is displayed in alphabetical order by state since we did not select any other geographic search mechanism.

TRI On-site and Off-site Reported Disposed of or Otherwise Released (in pounds), for facilities in NAICS 324 - Petroleum, for BENZENE chemical, By State, U.S. , 2009

Row #	State	Total On-site Disposal or Other Releases	Total Off-site Disposal or Other Releases	Total On- and Off-site Disposal or Other Releases
1	Alabama	6,255	2	6,258
2	Alaska	11,846	0	11,846
3	Arizona	81	0	81
4	Arkansas	13,620	5	13,625
5	California	40,479	639	41,119
6	Colorado	781	0	781
7	Delaware	10,595	12	10,607

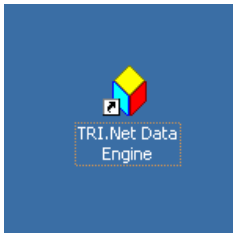
It should be more useful to see which states rank in the top 5 or top 10 of benzene releases for sector "324." This can be accomplished by either clicking on the blue down/up arrow boxes, or downloading the data to an Excel workbook and sorting then.

TRI.NET

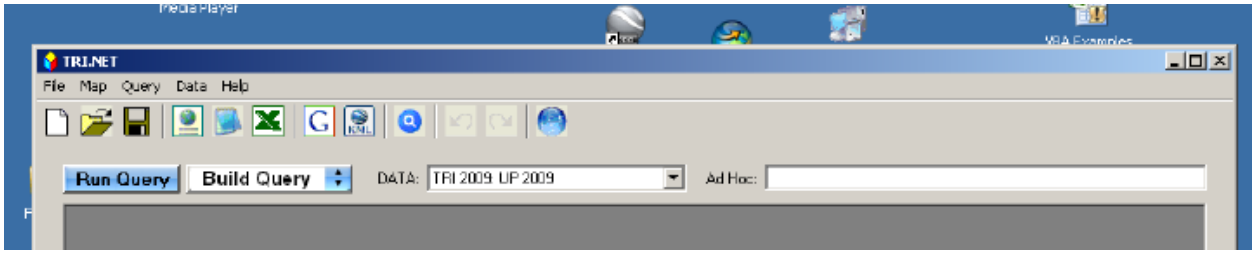
http://www.epa.gov/tri/tridotnet/

This is a standalone program which uses all historical TRI data. If you download all the data it does take a bit of time, so it is suggest you do it in the evening and let it run.
To download the application and learn about TRI.NET access the site use the above link. This application is meant for advanced users and those that have some familiarity with databases and programming. At present the program is not very intuitive but hopefully this will change.

Once the program has been installed, access it my clicking the icon:

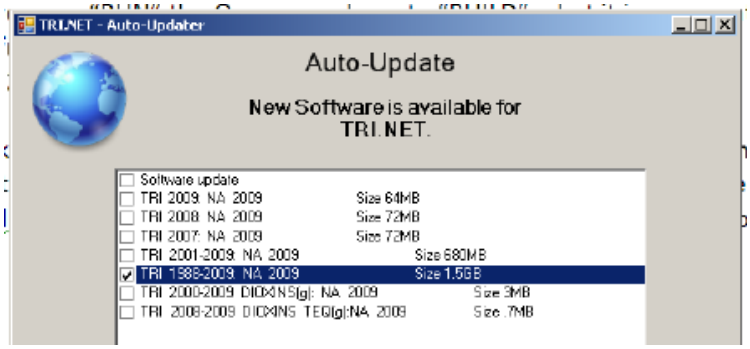


The menu is very "bare bones" and it is really not intuitive what to do to begin the program.

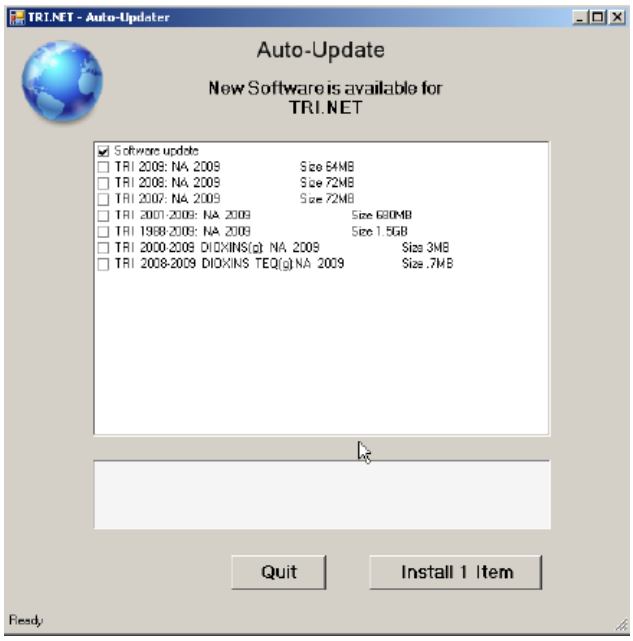


Before you can "RUN" the Query, you have to "BUILD" what it is you want to extract from the TRI data. When the program is first downloaded, it only has, I believe, 2009 data.

To check for updates and install older years' data, click on the last icon on the right at the top menu – looks like a blue Earth. Whatever updates you need to install should be checked. To download all previous years check the box with the years 1988 – 2009. It takes time to download all the data, so do this when you are not going to be using your computer. At the time of this writing, 2010 TRI data is expected to be available to TRI.NET in November 2011.



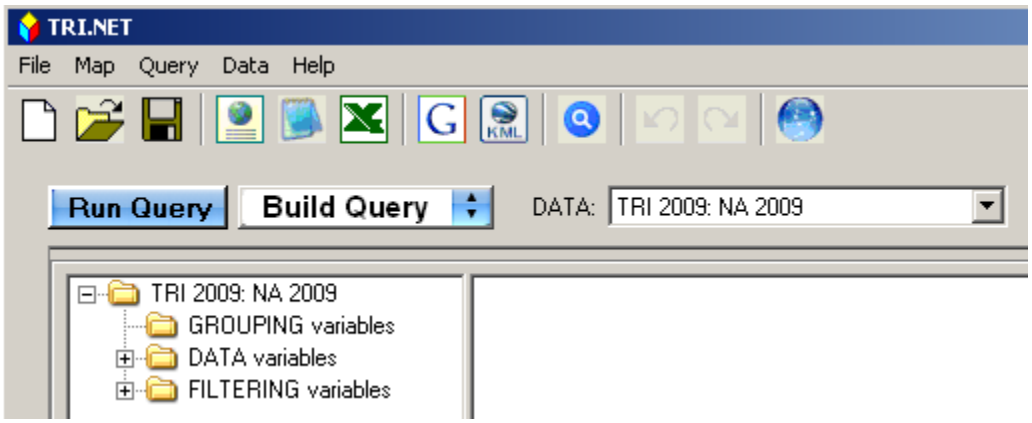
Below shows there is one upgrade available for my system.



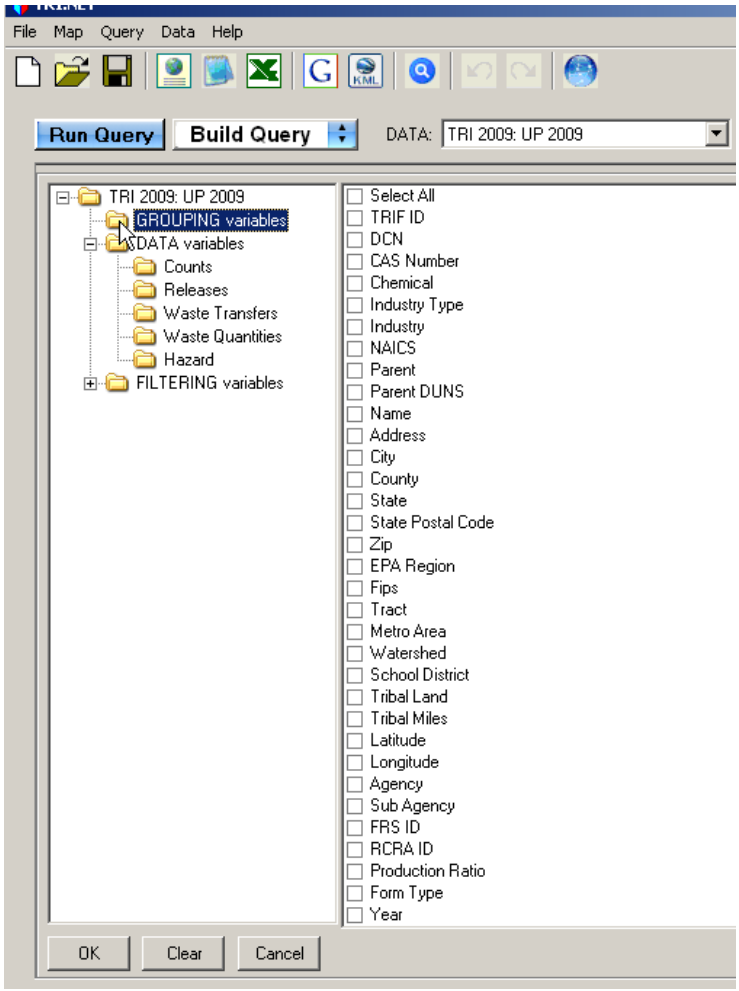
Once you have all the appropriate data installed that you want, you are ready to begin your analysis. By the way, the NA means this data was used for the National Data Analysis that the TRI Program performed and can be found on the TRI Homepage.

To begin extracting data from TRI.NET, first, click on the up or down arrow on the Build Query box:

After you click on the Build Query box, several “items” appear in the left most column of the program (see below). After the first time you click, the box may only show the default data set, in this case 2009, and three (3) other options – GROUPING variables, DATA variables, and FILTERING variables.



As is the standard format, clicking on the “+” sign will expand that folder to show additional information. NOTE: for some reason there is no “+” sign next to GROUPING variables, but if you click on the folder, you will see the subset of topics to select from (may have to view next page for graphic):



Here we have any number of items to select from. Think of the GROUPING variables as the column headings of the information you are going to retrieve. For example, let's say we are interested in all the TRI chemicals reported from a certain industry, perhaps petroleum refining, in 2009. Before progressing with our search, it is important to digress for a moment to discuss the importance of NAICS codes and their determination from SIC Codes, and to see if they are covered under Section 313 of EPCRA.

Background for NAICS codes and SIC codes:

To reiterate, with respect to Section 313 of EPCRA, and the qualifications to have to report, in particular the NAICS / SIC code requirement, when we speak of the facility's NAICS / SIC code, we are speaking of the **primary** NAICS / SIC code of the facility. That is, the activity at the facility which contributes the most revenue to the facility. Note that the qualifier **"primary"** is most often NOT used when

referring to the facility's NAICS / SIC code, and simply we refer to the NAICS / SIC code of the facility. **Primary** is implied! If a facility only performs one function, for example, manufactures ships (NAICS 336611 / SIC 3731), it has only one NAICS / SIC code and that is its **primary** code. However, if a facility performs multiple functions, it could have two, three, or even more NAICS / SIC codes to describe those functions. Again, to be a "covered" facility the **primary** NAICS / SIC code of a facility that has multiple NAICS / SIC codes would have to be one that is covered in the regulations (see 40 C.F.R. § 372.23).

It is also important to realize first that some NAICS's (North American Industry Classification System) codes are more narrow than others. By narrow I mean the code only covers one or two specific types of industries. Other NAICS codes covered a broader range of industries that are included in that code. An important website to utilize in your investigation of TRI data is that for the NAICS Concordance:

http://www.census.gov/eos/www/naics/concordances/concordances.html

Here, you can find what SIC (Standard Industrial Classification) code has been translated into what NAICS code, or vise versa. As of this writing, the web page looks like:

Concordances

The following table provides detailed descriptions of the direct relationships between classification systems.

Recent Concordance	
2007 NAICS to ISIC 4 [XLS, 353KB]	
2007 NAICS to 2002 NAICS [XLS, 158KB]	2002 NAICS to 2007 NAICS [XLS, 158KB]
2002 NAICS to 1997 NAICS [XLS, 1.3MB]	1997 NAICS to 2002 NAICS &391;XLS, 1.3MB]
2002 NAICS to 1987 SIC [XLS, 397KB]	1987 SIC to 2002 NAICS [XLS, 397KB]
1997 NAICS to 1987 SIC [XLS, 358KB]	1987 SIC to 1997 NAICS [XLS, 359KB]
2002 NAICS US to ISIC Rev. 3.1 [XLS, 416KB]	2002 NAICS US to NACE Rev. 1.1 [XLS, 460KB]

NAICS codes were adopted by TRI for reporting year 1995 and beyond. Before 1995, TRI relied on SIC codes for designating what it is that a facility does. Certain SIC codes were designated in the original law as being covered under the TRI Program, that is, SIC codes 2000 – 3999. These are "manufacturing" SIC codes. In

1998, seven (7) new sectors were added to reporting obligations of TRI which fell outside this SIC code range:

Metal Mining (SIC codes 1021, 1031, 1041, 1044, 1061, 1099)
Coal Mining (SIC codes 1221, 1222, 1231)
Electric Generators* (SIC codes 4911, 4931, 4939)
*Limited to facilities that combust oil and/or coal for electricity
Hazardous Waste TSDF's* (SIC code 4953)
*Treatment Storage & Disposal Facility
Chemical Wholesale Distributors (SIC code 5169)
Bulk Petroleum Wholesale Distributors (SIC code 5171)
Solvent Recyclers (SIC code 7389)

The "rule of thumb" is that if a facility was covered within a certain SIC Code, it will also be covered under the corresponding NAICS Code. At the time of this writing you can find a list of all "covered" NAICS, along with any exceptions on the TRI Homepage:

http://www.epa.gov/tri/

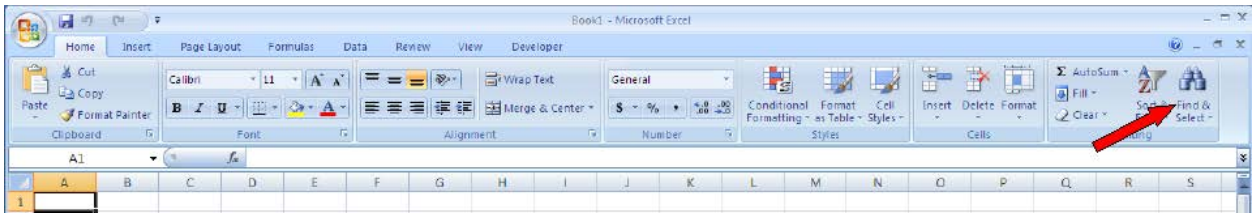
Once the homepage is showing on your screen, look in to the left of the page for "TRI-Covered Industries," double click.

The Concordances are Excel spreadsheets which can be downloaded to your computer. The two most important spreadsheets to use are:

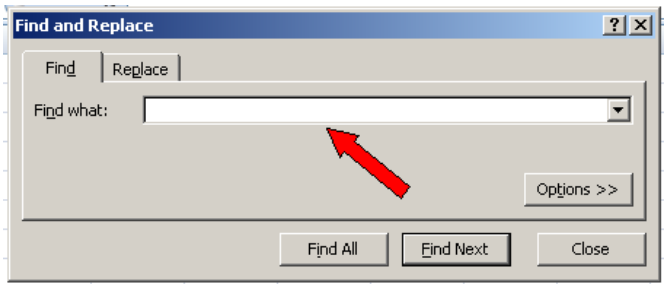
1987 SIC to 2002 NAICS
and
2002 NAICS to 2007 NAICS

If you know the SIC code you are interested in, use the 1987 SIC to 2002 NAICS to see what the corresponding NAICS code is, for that is what is used in TRI.NET. In Envirofacts however, either SIC codes or NAICS codes may be used to search. Once you find the 2002 NAICS, make sure it has not changed. Check the 2002 NAICS code by using the 2002 NAICS to 2007 NAICS. NAICS codes are revised and updated every 5 years. The next revision and updates will be in 2012.

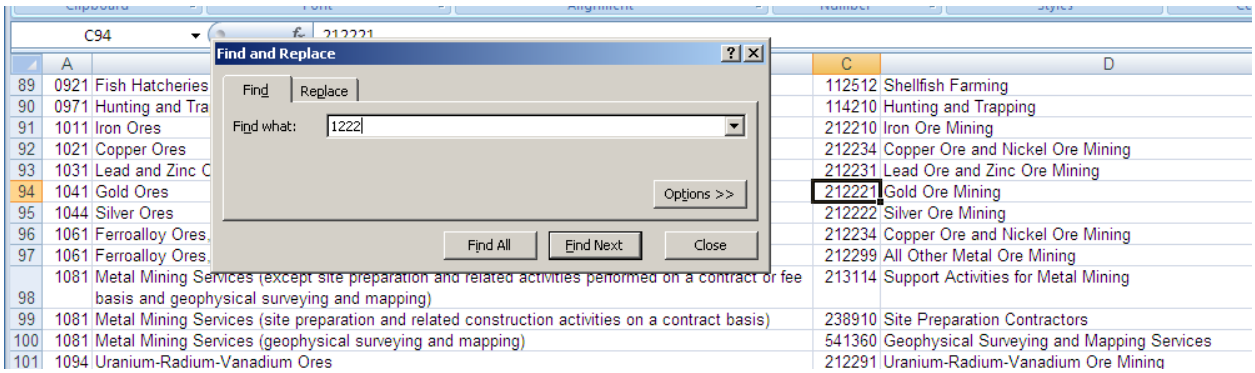
If you are not familiar with the "FIND" command in Excel follow these simple directions:



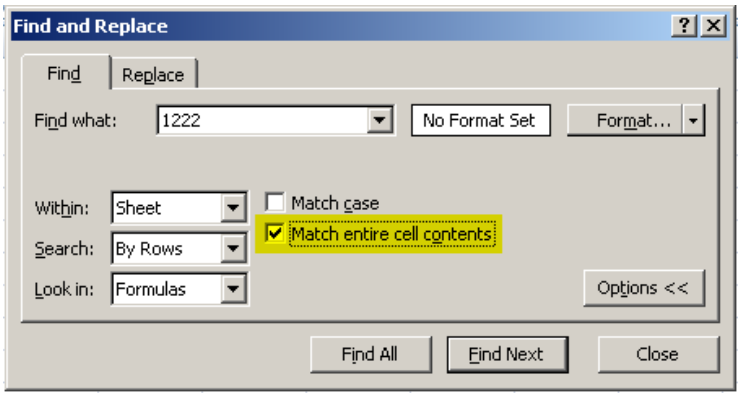
1) Click on the binoculars.
2) Click on the top option in the pop-up – "Find."
3) On the next pop-up, <u>do not</u> put your SIC or NAICS code in at this point, in the "Find what" box, because you may or may not find what you are looking for.



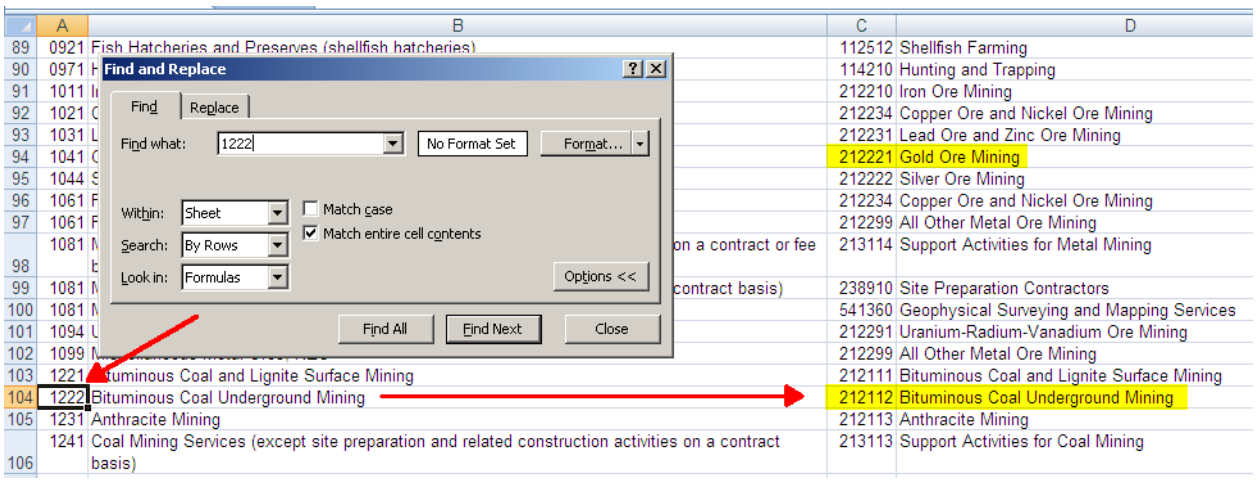
4) For example, if you are trying to find what the corresponding NAICS code is for 1222, in the coal mining sector, you enter 1222 in "Find what:" and click "Find Next," you'd be surprised at the result. Note that the string, "1222" is contained in the NAICS code that Excel found 212221.



5) Therefore, do not enter the SIC or NAICS code on this pop-up, rather click first on the "Options" button.
6) When the pop-up appears, you want to check "Match entire cell contents"



then click "Find Next"

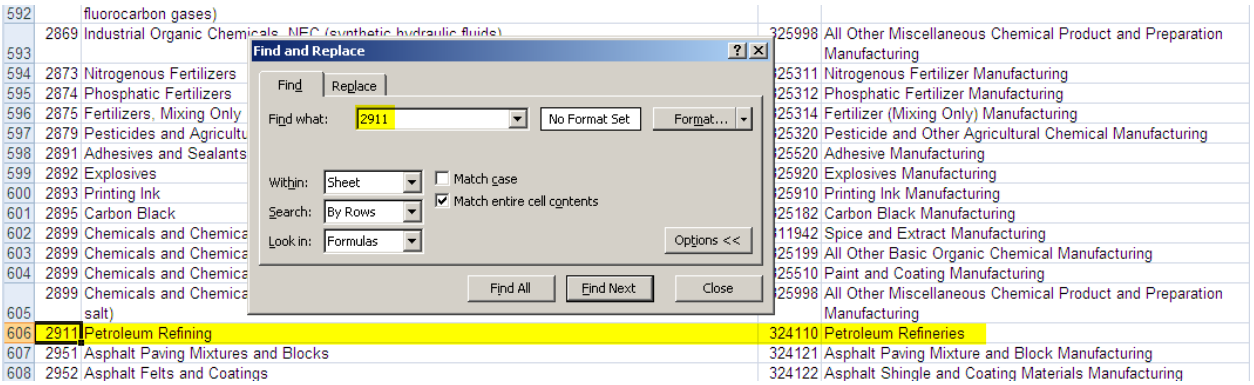


	A	B	C	D
89	0921	Fish Hatcheries and Preserves (shellfish hatcheries)	112512	Shellfish Farming
90	0971	H	114210	Hunting and Trapping
91	1011	I	212210	Iron Ore Mining
92	1021	C	212234	Copper Ore and Nickel Ore Mining
93	1031	L	212231	Lead Ore and Zinc Ore Mining
94	1041	G	212221	Gold Ore Mining
95	1044	S	212222	Silver Ore Mining
96	1061	F	212234	Copper Ore and Nickel Ore Mining
97	1061	F	212299	All Other Metal Ore Mining
98	1081	M b	on a contract or fee	213114 Support Activities for Metal Mining
99	1081	M	contract basis)	238910 Site Preparation Contractors
100	1081	M		541360 Geophysical Surveying and Mapping Services
101	1094	U		212291 Uranium-Radium-Vanadium Ore Mining
102	1099	M		212299 All Other Metal Ore Mining
103	1221	tuminous Coal and Lignite Surface Mining		212111 Bituminous Coal and Lignite Surface Mining
104	1222	Bituminous Coal Underground Mining		212112 Bituminous Coal Underground Mining
105	1231	Anthracite Mining		212113 Anthracite Mining
106	1241	Coal Mining Services (except site preparation and related construction activities on a contract basis)		213113 Support Activities for Coal Mining

This time Excel finds the correct SIC code and the corresponding NAICS code.

Another caution regarding SIC to NAICS conversions, they are not always a one to one correspondence. What I mean by that is that sometimes a SIC code may have multiple NAICS codes and a NAICS code may have multiple SIC codes, some of which are not covered under TRI. Always, always insure the corresponding SIC code is one of the original covered codes from the law (2000 – 3999) or the newly added sectors.

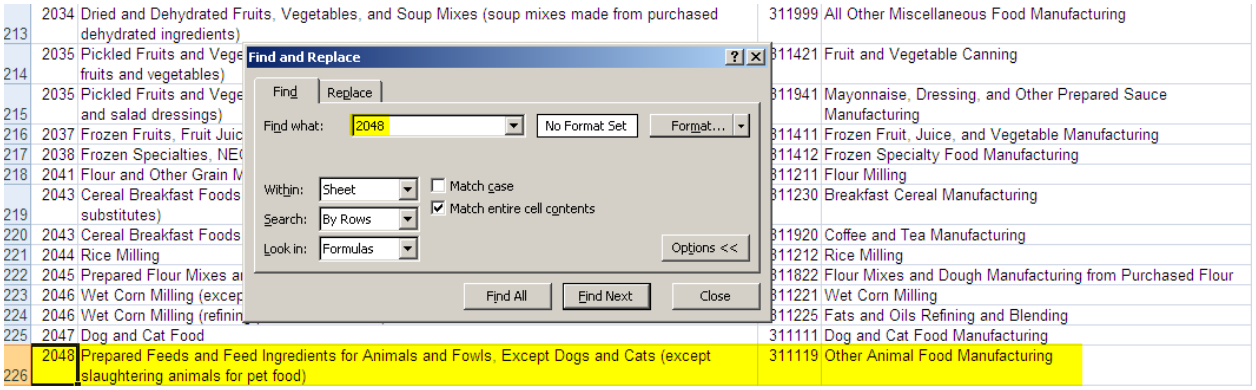
Here's how to insure there is a one to one correspondence between SIC and NAICS. Using the methodology above search for the corresponding NAICS to the SIC code 2911, for petroleum refining:



592		fluorocarbon gases)		
593	2869	Industrial Organic Chemicals, NEC (synthetic hydraulic fluids)	325998	All Other Miscellaneous Chemical Product and Preparation Manufacturing
594	2873	Nitrogenous Fertilizers	325311	Nitrogenous Fertilizer Manufacturing
595	2874	Phosphatic Fertilizers	325312	Phosphatic Fertilizer Manufacturing
596	2875	Fertilizers, Mixing Only	325314	Fertilizer (Mixing Only) Manufacturing
597	2879	Pesticides and Agricultu	325320	Pesticide and Other Agricultural Chemical Manufacturing
598	2891	Adhesives and Sealants	325520	Adhesive Manufacturing
599	2892	Explosives	325920	Explosives Manufacturing
600	2893	Printing Ink	325910	Printing Ink Manufacturing
601	2895	Carbon Black	325182	Carbon Black Manufacturing
602	2899	Chemicals and Chemica	311942	Spice and Extract Manufacturing
603	2899	Chemicals and Chemica	325199	All Other Basic Organic Chemical Manufacturing
604	2899	Chemicals and Chemica	325510	Paint and Coating Manufacturing
605	2899	Chemicals and Chemica salt)	325998	All Other Miscellaneous Chemical Product and Preparation Manufacturing
606	2911	Petroleum Refining	324110	Petroleum Refineries
607	2951	Asphalt Paving Mixtures and Blocks	324121	Asphalt Paving Mixture and Block Manufacturing
608	2952	Asphalt Felts and Coatings	324122	Asphalt Shingle and Coating Materials Manufacturing

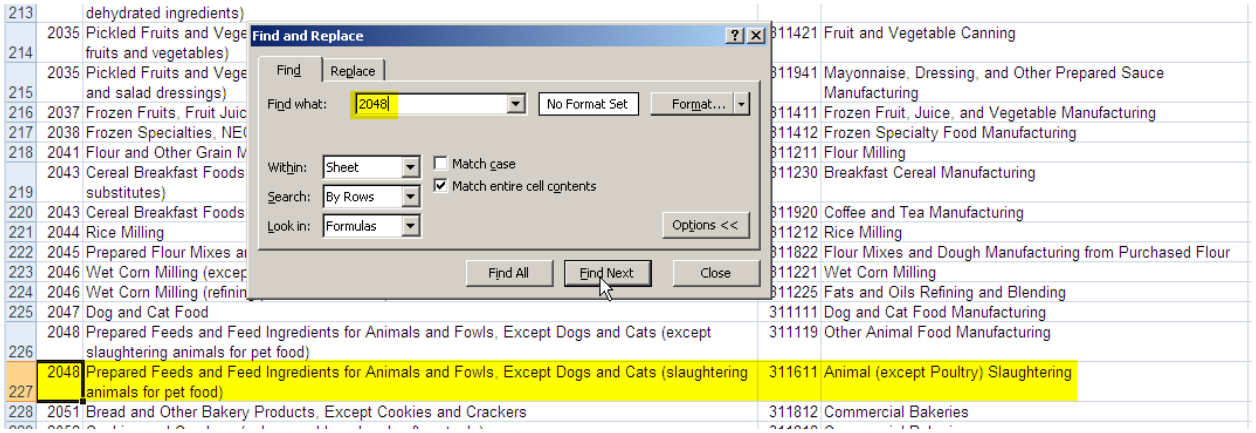
No matter how many times you click on "Find Next" the cursor does not move to another position in the spreadsheet.

Another example where there is not a one to one correspondence from SIC to NAICS. SIC 2048 – Prepared Feeds and Feed Ingredients for Animals and Fowls, Except Dogs and Cats. The first time we click we find 2048 corresponds to 311119.



213	2034	Dried and Dehydrated Fruits, Vegetables, and Soup Mixes (soup mixes made from purchased dehydrated ingredients)	311999	All Other Miscellaneous Food Manufacturing
214	2035	Pickled Fruits and Vege fruits and vegetables)	311421	Fruit and Vegetable Canning
215	2035	Pickled Fruits and Vege and salad dressings)	311941	Mayonnaise, Dressing, and Other Prepared Sauce Manufacturing
216	2037	Frozen Fruits, Fruit Juic	311411	Frozen Fruit, Juice, and Vegetable Manufacturing
217	2038	Frozen Specialties, NE	311412	Frozen Specialty Food Manufacturing
218	2041	Flour and Other Grain M	311211	Flour Milling
219	2043	Cereal Breakfast Foods substitutes)	311230	Breakfast Cereal Manufacturing
220	2043	Cereal Breakfast Foods	311920	Coffee and Tea Manufacturing
221	2044	Rice Milling	311212	Rice Milling
222	2045	Prepared Flour Mixes a	311822	Flour Mixes and Dough Manufacturing from Purchased Flour
223	2046	Wet Corn Milling (excep	311221	Wet Corn Milling
224	2046	Wet Corn Milling (refinin	311225	Fats and Oils Refining and Blending
225	2047	Dog and Cat Food	311111	Dog and Cat Food Manufacturing
226	2048	Prepared Feeds and Feed Ingredients for Animals and Fowls, Except Dogs and Cats (except slaughtering animals for pet food)	311119	Other Animal Food Manufacturing

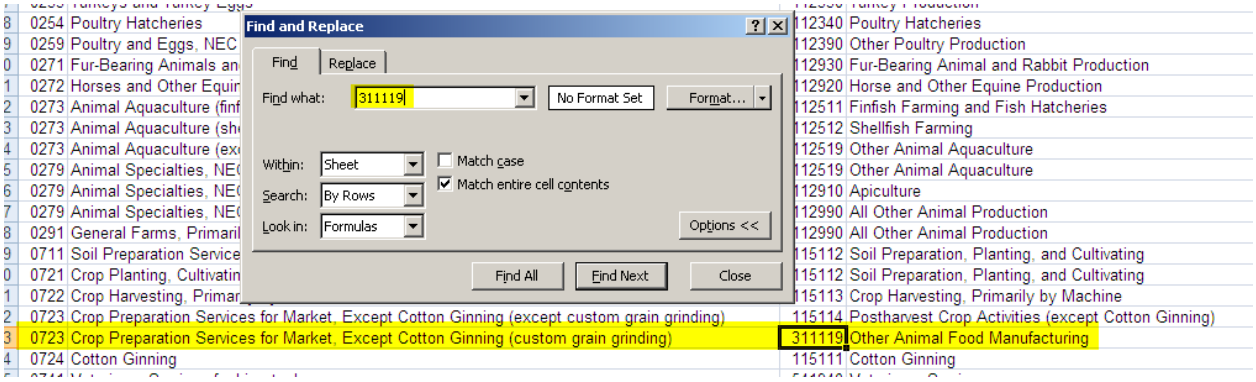
However, if we click “Find Next” again, we see there is another NAICS code with corresponds to that SIC code. This time to 311611. Both NAICS codes are covered due to the fact that the original SIC code was covered, i.e., 2048.



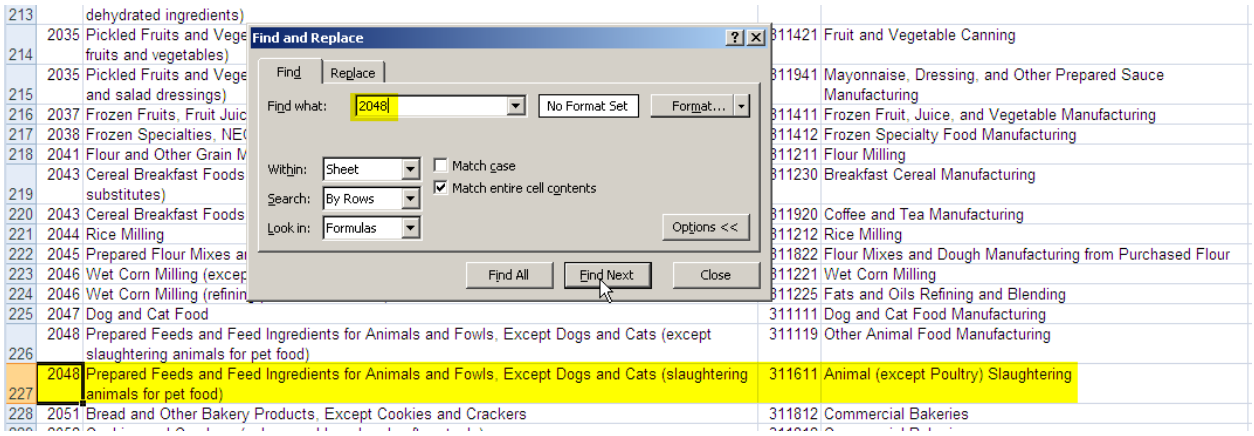
213		dehydrated ingredients)		
214	2035	Pickled Fruits and Vege fruits and vegetables)	311421	Fruit and Vegetable Canning
215	2035	Pickled Fruits and Vege and salad dressings)	311941	Mayonnaise, Dressing, and Other Prepared Sauce Manufacturing
216	2037	Frozen Fruits, Fruit Juic	311411	Frozen Fruit, Juice, and Vegetable Manufacturing
217	2038	Frozen Specialties, NE	311412	Frozen Specialty Food Manufacturing
218	2041	Flour and Other Grain M	311211	Flour Milling
219	2043	Cereal Breakfast Foods substitutes)	311230	Breakfast Cereal Manufacturing
220	2043	Cereal Breakfast Foods	311920	Coffee and Tea Manufacturing
221	2044	Rice Milling	311212	Rice Milling
222	2045	Prepared Flour Mixes a	311822	Flour Mixes and Dough Manufacturing from Purchased Flour
223	2046	Wet Corn Milling (excep	311221	Wet Corn Milling
224	2046	Wet Corn Milling (refinin	311225	Fats and Oils Refining and Blending
225	2047	Dog and Cat Food	311111	Dog and Cat Food Manufacturing
226	2048	Prepared Feeds and Feed Ingredients for Animals and Fowls, Except Dogs and Cats (except slaughtering animals for pet food)	311119	Other Animal Food Manufacturing
227	2048	Prepared Feeds and Feed Ingredients for Animals and Fowls, Except Dogs and Cats (slaughtering animals for pet food)	311611	Animal (except Poultry) Slaughtering
228	2051	Bread and Other Bakery Products, Except Cookies and Crackers	311812	Commercial Bakeries

Let’s see if the reverse is true, that is, if we searched on the original NAICS code to see if is a covered code, that is, it corresponds to an originally covered SIC code. Check NAICS code 311119 first.

Surprisingly, the first hit we get does not correspond to a covered SIC Code.



Clicking "Find Next" a second time, we come back to the SIC code that is covered.



END Background for NAICS / SIC codes

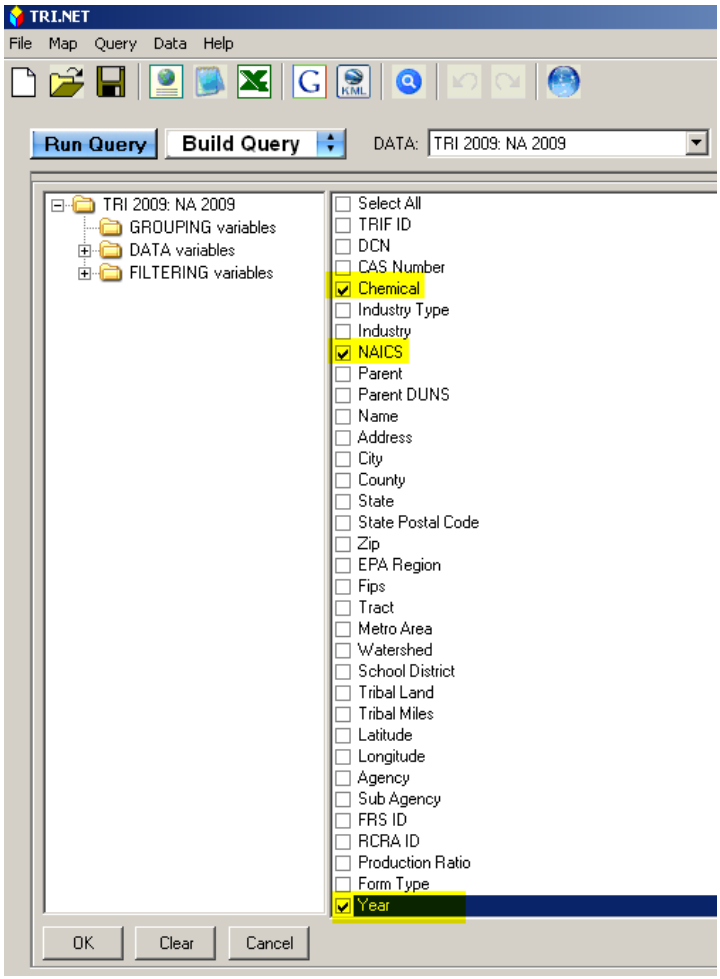
Continuation of TRI.NET Search Example:

To continue let's say we are interested in all the possible chemicals a petroleum refinery (NAICS code 324110) may report in a given year. Realize that not every toxic chemical at a facility is reported every year due to any number of reasons: threshold, process change, discontinued use of that chemical, etc.

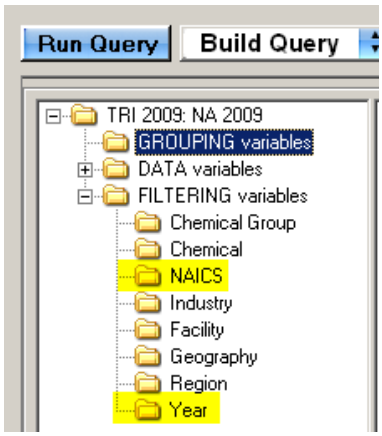
We are not at all that concerned at this point with what facility is reporting what, or geographic region, but rather more concerned with the sector as a whole. To reiterate, click on the GROUPINGS variables folder to open it up. Under the GROUPINGS folder, let's select just three (3) items –

1) Chemical
2) NAICS

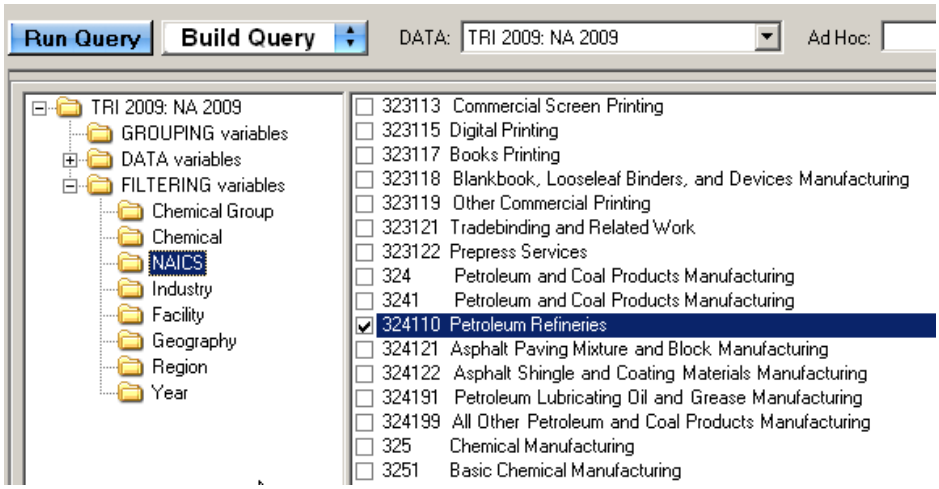
3) Year



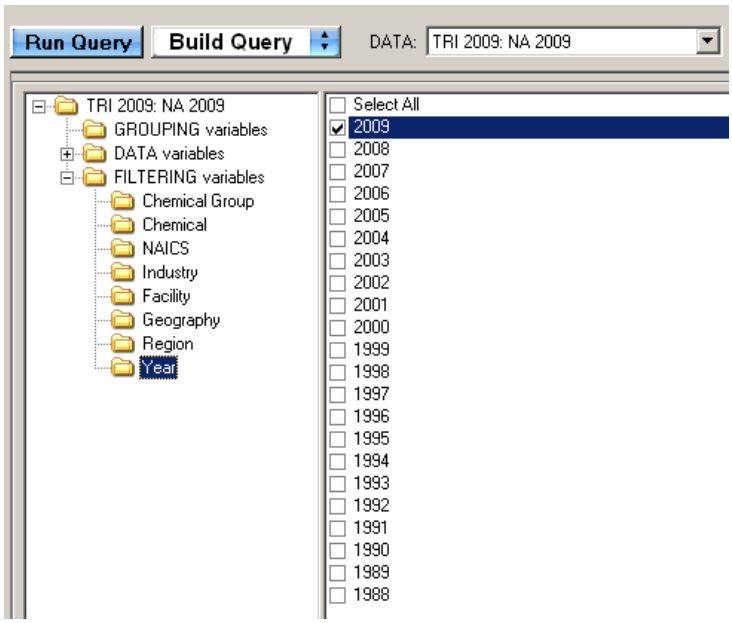
This is a very simple query. However, we need first to choose our NAICS code, and the year we want to search on. As you become more familiar with the program, you will realize that for this search you need not open the DATA variables folder. So, click on the "+" sign for the FILTERING variables folder. Note the options:



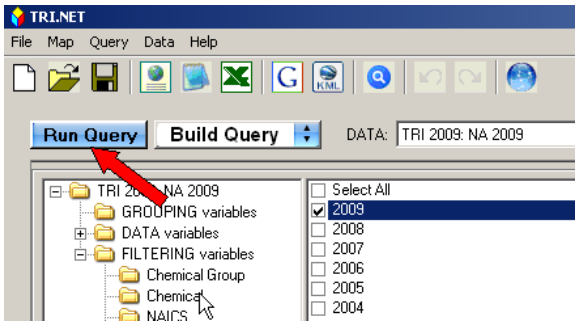
Because we are not interested in a specific chemical or chemicals, we can by-pass the Chemical Group and Chemical folders. Obviously though, we are interested in a specific industry, petroleum refineries, so click on the NAICS folder. This will open up a listing of all NAICS code at various levels – 3 digit, 4 digit, and 6 digit – most narrow, level. Use the right hand scroll bar to pull the screen down until you find the NAICS code you are interested in and check it.



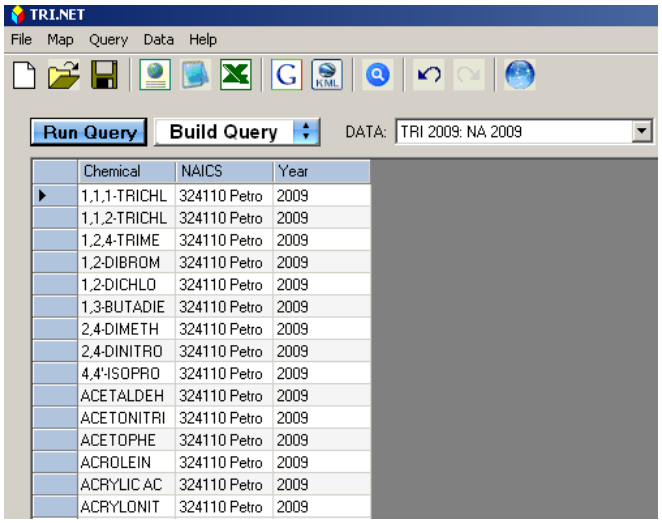
Because 2009 is the default you don't really have to check the year folder. However, if you begin dealing with different years, it's a good idea to get in a habit of checking the year or years you are interested in. So now, click the Year folder and click 2009.



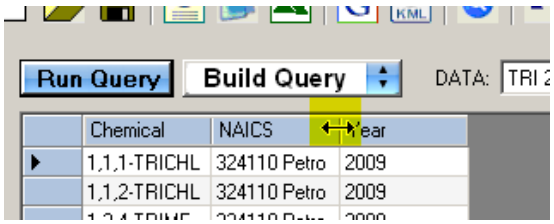
Now you are ready to "Run Query." Simply click on the "Run Query" button at the top of the screen.



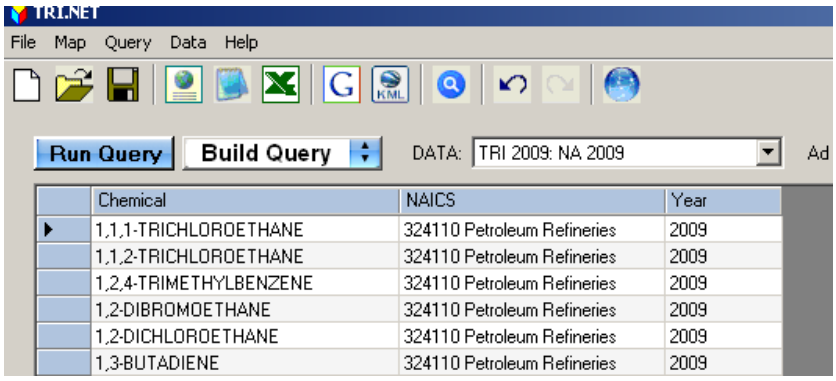
Depending on the complexity of the run, it may take several seconds to complete. The output is similar to a spreadsheet but not quite, i.e., you cannot manipulate it as in a spreadsheet. Here is a screen shot of the first few rows of data – the chemicals are in alphabetical order.



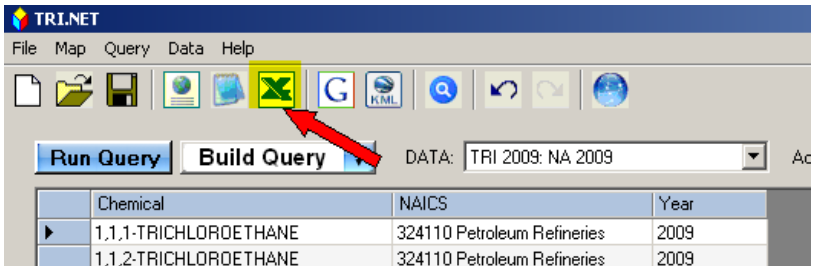
You can however expand the column width by holding your cursor over the vertical column divider till it changes to a double arrow, hold down the left mouse button and dragging to the right.



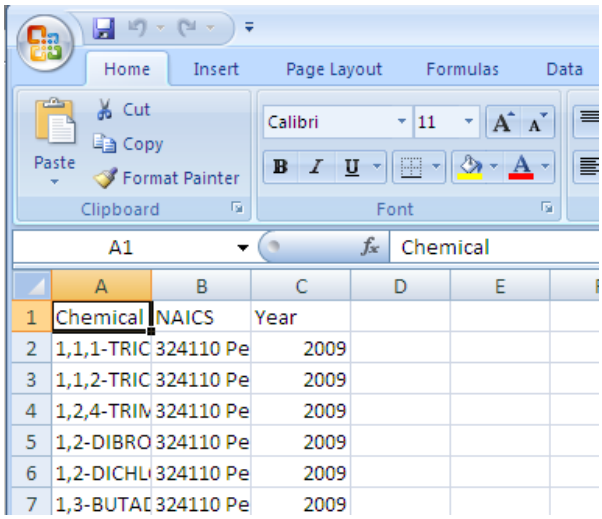
This screen is more for just viewing than manipulating:



This data, like other TRI data, can be downloaded into an Excel spreadsheet. To accomplish downloading this, or any other “spreadsheet” typ information generated in TRI.NET to Excel, as you might expect – click on the Excel icon along the top.

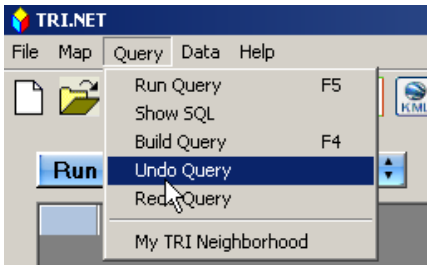


Unlike other EPA Web programs, this one automatically goes to Excel without having to step through any intervening steps. Be sure to save! That's it.



We have now completed a data extraction for the toxic chemicals reported by the petroleum refining sector in 2009. Now, perhaps we may be interested in only the petroleum refineries that reported for hydrochloric acid aerosols and benzene. So now we need to selected more options in TRI.NET.

First, clear the data you have extracted by clicking Query > Undo Query



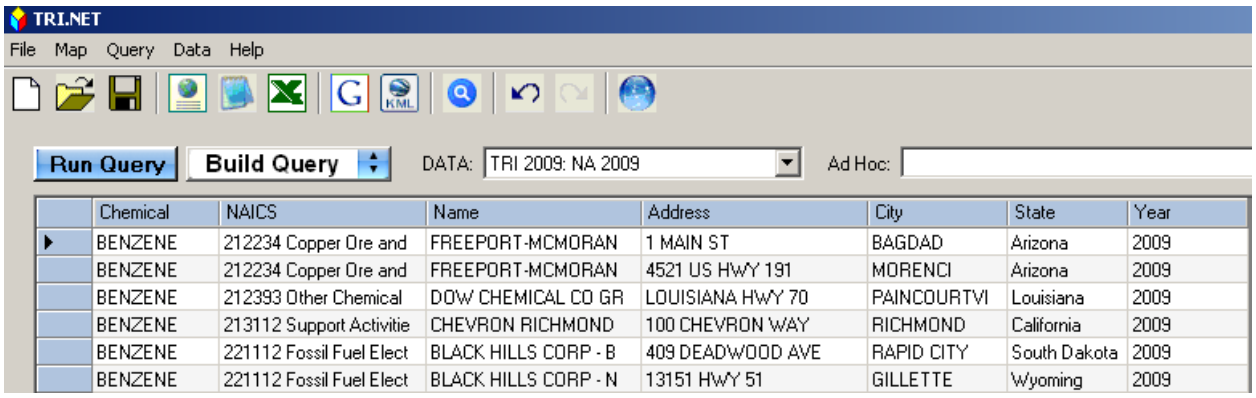
Now that you know what the screens look like, these instructions will use less graphics. Under GROUPING variables select:

Chemical
NAICS
Name
Address
City
State
Year

Under FILTERING variables select Chemical folder and select:

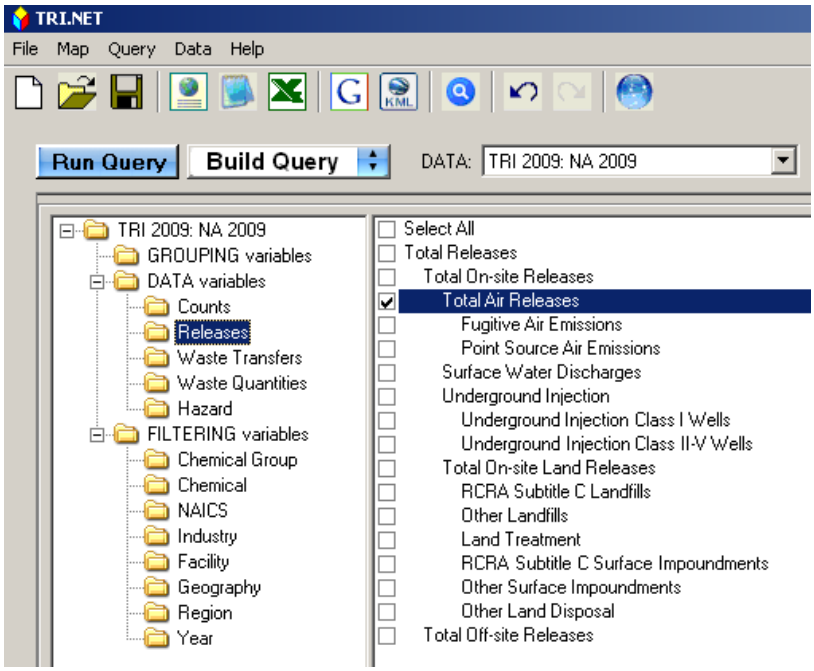
Benzene
Hydrochloric acid aerosols

Under YEAR, select 2009, then click on RUN QUERY.

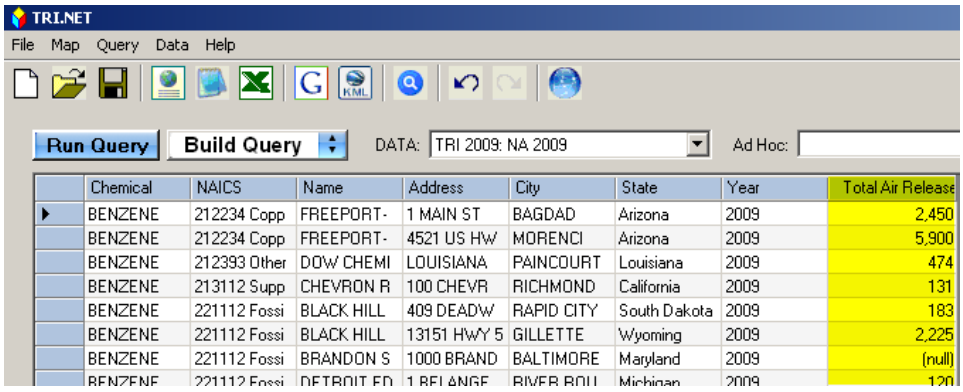


Chemical	NAICS	Name	Address	City	State	Year
BENZENE	212234 Copper Ore and	FREEPORT-MCMORAN	1 MAIN ST	BAGDAD	Arizona	2009
BENZENE	212234 Copper Ore and	FREEPORT-MCMORAN	4521 US HWY 191	MORENCI	Arizona	2009
BENZENE	212393 Other Chemical	DOW CHEMICAL CO GR	LOUISIANA HWY 70	PAINCOURTVI	Louisiana	2009
BENZENE	213112 Support Activitie	CHEVRON RICHMOND	100 CHEVRON WAY	RICHMOND	California	2009
BENZENE	221112 Fossil Fuel Elect	BLACK HILLS CORP - B	409 DEADWOOD AVE	RAPID CITY	South Dakota	2009
BENZENE	221112 Fossil Fuel Elect	BLACK HILLS CORP - N	13151 HWY 51	GILLETTE	Wyoming	2009

Now if you are concerned with the releases from these facilities, you can simply add to the Query by clicking on the Releases folder under the DATA variables folder. You do not have to redo the entire Query. You can select any number of the options to the right. For ease of viewing on here, let's simply check Total Air-Releases, and then click on Run Query again.



Now, you've added the total air releases for these chemicals from petroleum refineries for reporting year 2009.

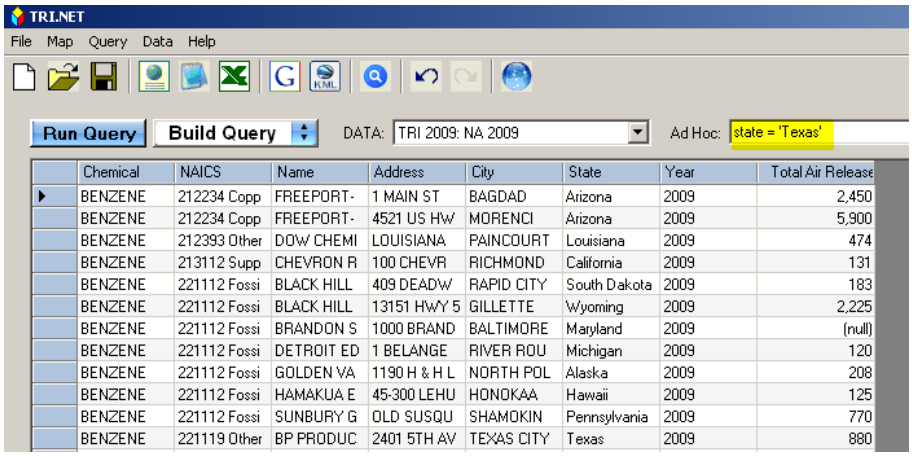


Chemical	NAICS	Name	Address	City	State	Year	Total Air Release
BENZENE	212234 Copp	FREEPORT-	1 MAIN ST	BAGDAD	Arizona	2009	2,450
BENZENE	212234 Copp	FREEPORT-	4521 US HW	MORENCI	Arizona	2009	5,900
BENZENE	212393 Other	DOW CHEMI	LOUISIANA	PAINCOURT	Louisiana	2009	474
BENZENE	213112 Supp	CHEVRON R	100 CHEVR	RICHMOND	California	2009	131
BENZENE	221112 Fossi	BLACK HILL	409 DEADW	RAPID CITY	South Dakota	2009	183
BENZENE	221112 Fossi	BLACK HILL	13151 HWY 5	GILLETTE	Wyoming	2009	2,225
BENZENE	221112 Fossi	BRANDON S	1000 BRAND	BALTIMORE	Maryland	2009	(null)
BENZENE	221112 Fossi	DETROIT ED	1 BELANGE	RIVER ROU	Michigan	2009	120

All units are in pounds. The only TRI chemicals not reported in pounds are dioxins and dioxin like compounds.

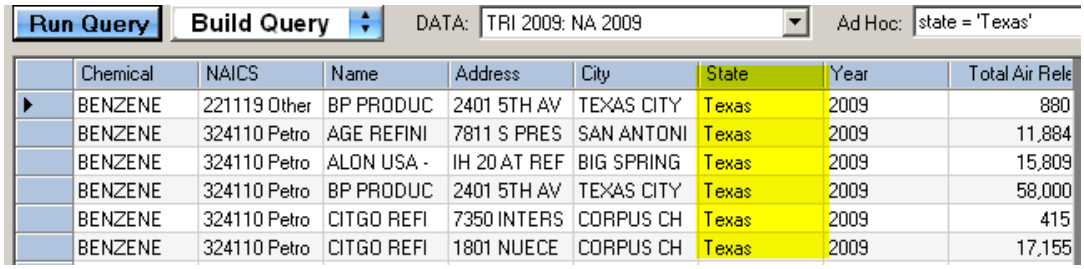
Let's say you are interested in just one state after viewing the above information – Texas. You do not have to run the Query all over again. In the "Ad Hoc" box to the right use this format to "drill-down" to retrieve the information from just one state.

state = ‘Texas’



	Chemical	NAICS	Name	Address	City	State	Year	Total Air Release
▶	BENZENE	212234 Copp	FREEPORT-	1 MAIN ST	BAGDAD	Arizona	2009	2,450
	BENZENE	212234 Copp	FREEPORT-	4521 US HW	MORENCI	Arizona	2009	5,900
	BENZENE	212393 Other	DOW CHEMI	LOUISIANA	PAINCOURT	Louisiana	2009	474
	BENZENE	213112 Supp	CHEVRON R	100 CHEVR	RICHMOND	California	2009	131
	BENZENE	221112 Fossi	BLACK HILL	409 DEADW	RAPID CITY	South Dakota	2009	183
	BENZENE	221112 Fossi	BLACK HILL	13151 HWY 5	GILLETTE	Wyoming	2009	2,225
	BENZENE	221112 Fossi	BRANDON S	1000 BRAND	BALTIMORE	Maryland	2009	(null)
	BENZENE	221112 Fossi	DETROIT ED	1 BELANGE	RIVER ROU	Michigan	2009	120
	BENZENE	221112 Fossi	GOLDEN VA	1190 H & H L	NORTH POL	Alaska	2009	208
	BENZENE	221112 Fossi	HAMAKUA E	45-300 LEHU	HONOKAA	Hawaii	2009	125
	BENZENE	221112 Fossi	SUNBURY G	OLD SUSQU	SHAMOKIN	Pennsylvania	2009	770
	BENZENE	221119 Other	BP PRODUC	2401 5TH AV	TEXAS CITY	Texas	2009	880

Then click Run Query, and now you only have facilities in Texas.



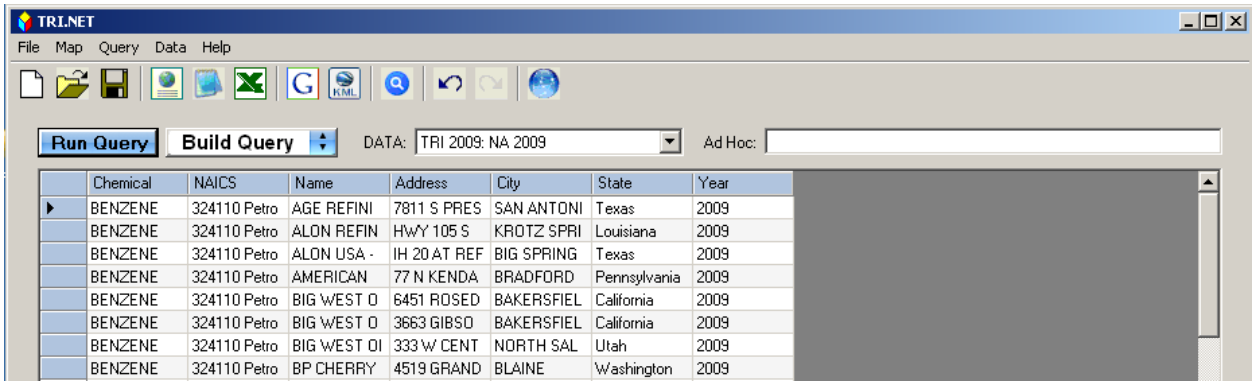
	Chemical	NAICS	Name	Address	City	State	Year	Total Air Rele
▶	BENZENE	221119 Other	BP PRODUC	2401 5TH AV	TEXAS CITY	Texas	2009	880
	BENZENE	324110 Petro	AGE REFINI	7811 S PRES	SAN ANTONI	Texas	2009	11,884
	BENZENE	324110 Petro	ALON USA -	IH 20 AT REF	BIG SPRING	Texas	2009	15,809
	BENZENE	324110 Petro	BP PRODUC	2401 5TH AV	TEXAS CITY	Texas	2009	58,000
	BENZENE	324110 Petro	CITGO REFI	7350 INTERS	CORPUS CH	Texas	2009	415
	BENZENE	324110 Petro	CITGO REFI	1801 NUECE	CORPUS CH	Texas	2009	17,155

Let’s say you made a mistake and you wanted Tennessee. Erase the information in the Ad Hoc box, click Run Query again, to get back all the information you originally had. If you do not, the query will not find any facilities in Tennessee because you are only in Texas at present. Then in the Ad Hoc box, using the same format as outlined above enter Tennessee, and click Run Query.

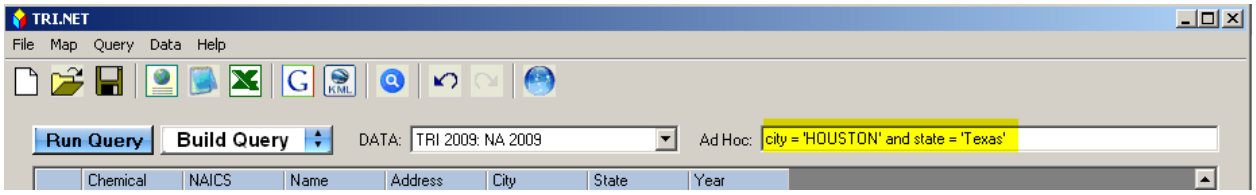
	Chemical	NAICS	Name	Address	City	State	Year	Total Air Rele
▶	BENZENE	311221 Wet	TATE & LYLE	198 BLAIR B	LOUDON	Tennessee	2009	156
	BENZENE	324110 Petro	VALERO RE	2385 RIVER	MEMPHIS	Tennessee	2009	5,392
	BENZENE	325193 Ethyl	GREEN PLAI	2098 MCDO	RIVES	Tennessee	2009	192
	BENZENE	325199 All Ot	CYTEC INDU	7910 MT JOY	MOUNT PLE	Tennessee	2009	2,254
	BENZENE	325211 Plasti	EASTMAN C	100 EASTMA	KINGSPORT	Tennessee	2009	8,067
	BENZENE	331511 Iron F	THYSSENKR	134 WAUPA	ETOWAH	Tennessee	2009	21,907

After running a query for the entire United States, perhaps you are only interested in a specific city / state. Once can utilize the Ad Hoc box to further narrow your search.

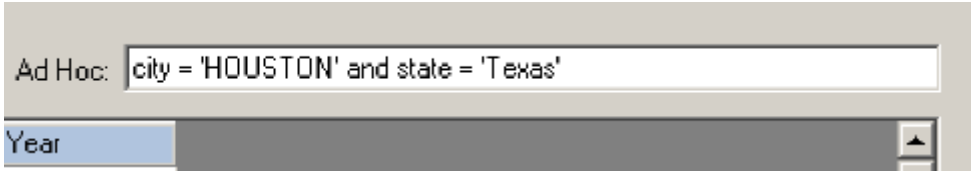
Using the aforementioned methodology, search the entire U.S. for petroleum refineries (NAICS = 324110) who have reported for “benzene” in 2009.



Using the following format, enter the city and in which state you are interested in, for example, Houston, Texas in the Ad Hoc box.



Just to clarify you can see the format clearer, here is a larger graphic:



Note that the actual city name **IS IN ALL CAPS**, only single quotes are used, and the “and” conjunction is used to connect the city to the state, and no commas. For the state name, only the first letter is capitalized. After the Ad Hoc entry is complete, click on the Run Query key.

As can be seen, only two petroleum refineries reported benzene for the 2009 reporting year in Houston, Texas.

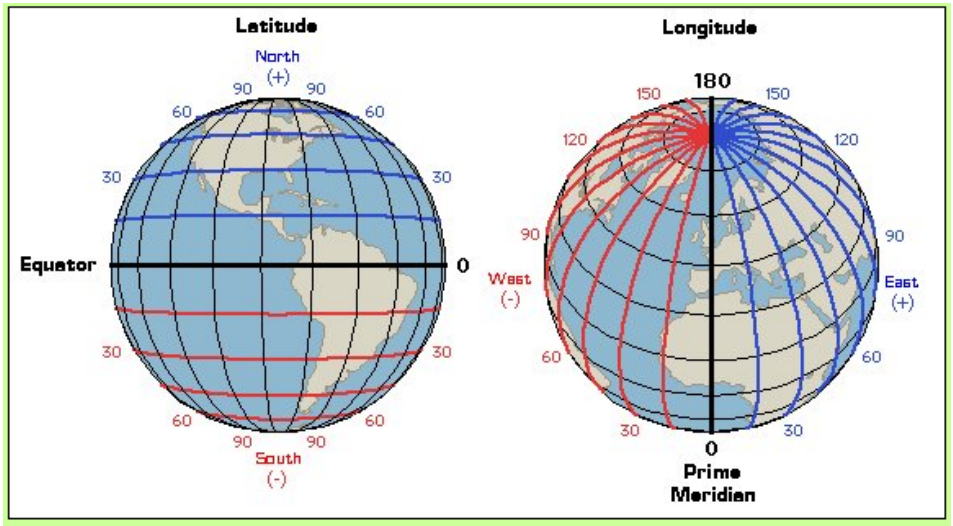
Mapping TRI Facilities:

One of the most useful features in TRI.NET is its ability to map TRI facilities located within an "X" mile radius of an address, or from the intersection of a latitude & longitude. This gives an unprecedented visual perspective of the TRI facilities located with respect to the location in question.

To utilize the mapping feature within TRI.NET, begin by clicking on the "My Neighborhood" icon on the tool bar – the magnifying glass.

On the pop-up which appears (see graphic after numbered instructions, the numbered instruction corresponds to the red number on the graphic):

1st Enter the address or the lat & lon of the location you are interested in. Remember in this part of the world, longitude is preceded by a negative sign. If you are not familiar with the universal coordinate system of latitude and longitude Google for an explanation. As seen in the below graphic



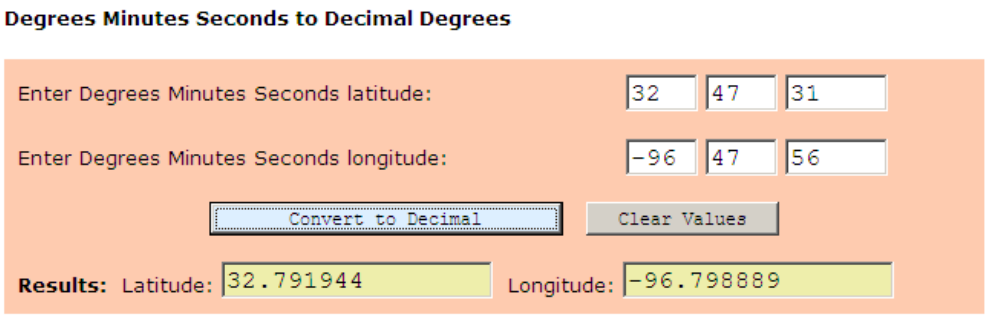
latitude (left graphic) runs East – West, but is read as North or South Latitude, with the equator being zero degrees latitude. All latitudes in North American are positive and are "North" latitudes. Longitude (right graphic above) runs North – South, but is read East – West. All longitudes in North American are negative and are read as "West" longitudes.

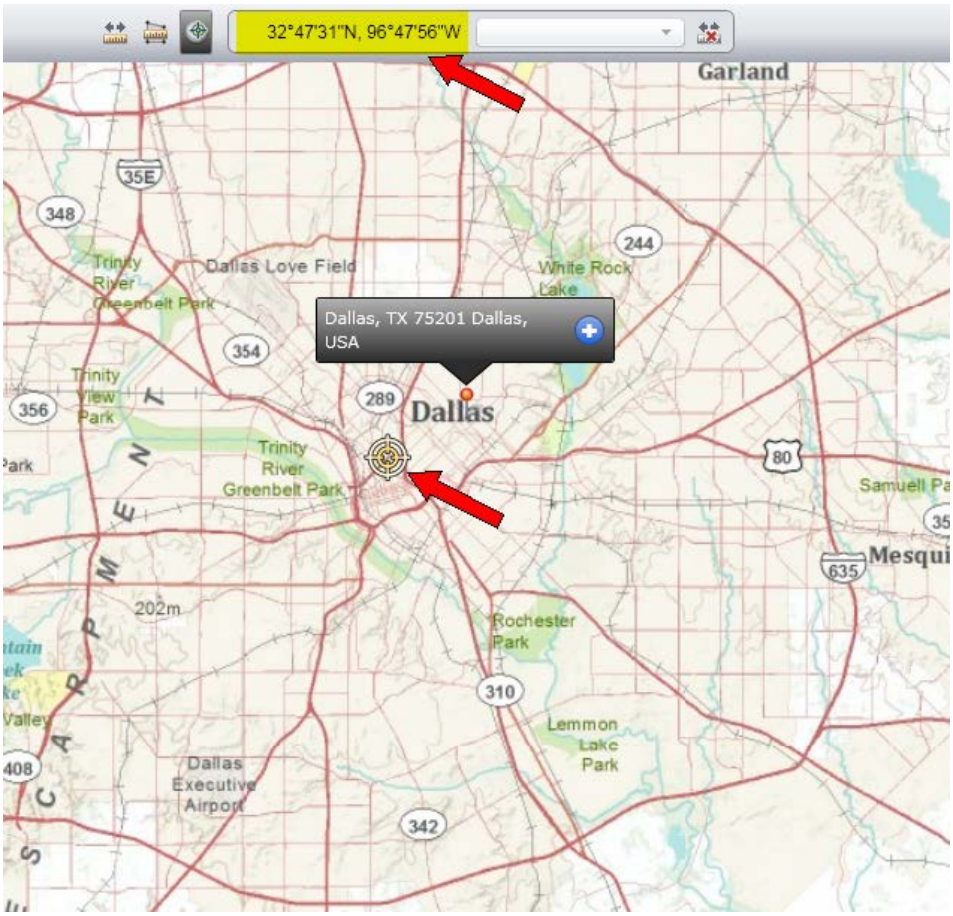
The approximate location of Dallas, Texas is taken from ArcGIS Explorer Online

http://explorer.arcgis.com/

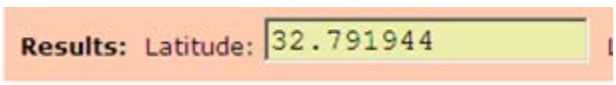
is shown as: 32^{o} 47' 31" N -96^{o} 47'56" W on the below graphic and is read as 32 degrees, 47 minutes and 31 seconds North Latitude, and
Minus 96 degrees, 47 minutes, and 56 second West Longitude. Although technically incorrect many maps for North America leave off the minus sign for longitude as can be seen in the below graphic. The "degrees, minutes, seconds" (DD MM SS) format is not conducive to computer work and thus the decimal equivalents of "minutes and seconds" was developed to improve ease of input to computer systems. There are several web sites that will automatically convert DD MM SS to decimal degrees or back to DD MM SS from decimal degrees. For example the FCC has a website to perform this task:

http://transition.fcc.gov/mb/audio/bickel/DDDMMSS-decimal.html



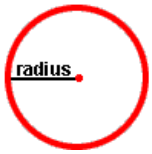


However, if you get in a bind, and don't have a computer handy you can convert DD MM SS to a decimal by simple math. Let's use the latitude of 32^{o} 47' 31" N. The degrees are fine. The question is what is the decimal equivalent of 47' and 31"? Remember, just like time, there are 60 "seconds" in a "minute" and 60 "minutes" in a degree, but here we are talking about angle of measurements and not time. The decimal equivalent for the 47' would simply be 47/60 = 0.78333 due to the fact there are 60 minutes in a degree. To convert the seconds (double tic's – ") to decimal degrees you have to multiply 60 x 60 = 3600 and then divide 31"/ 3600 = .008611. Add the two "decimal degrees" together – 0.783333 + 0.008611 = 0.791944, then add on the degrees and you have 32.791944. This is the exact number that the automatic calculator determines.

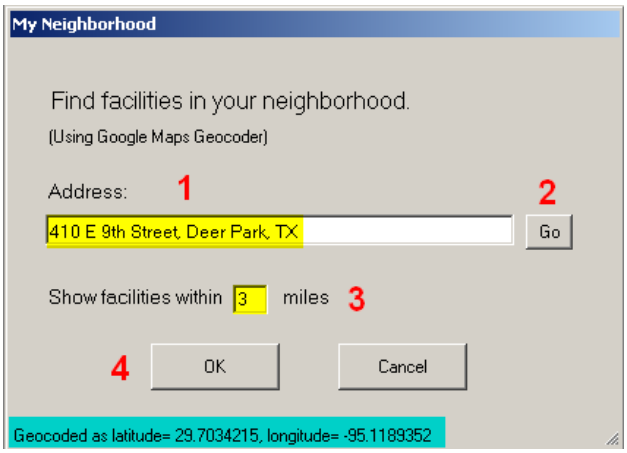


2nd Once the address or lat & lon are entered, click the **"Go"** button to "Geocode the location – see cyan highlight at bottom of pop-up. Geocoding give the location a calculated decimal degree lat & lon location.

3rd Enter the radius of the miles you want to search around the location. Remember, radius is not the same as diameter.



4th Once you've entered all the information click the "OK" button.



Now you are ready to Build the Query to extract only those TRI facilities who's characteristics you give to TRI.NET.

THE MAIN THING TO REMEMBER IN TRI.NET, IF YOU WANT TO MAP THE FACILITIES, YOU MUST ALWAYS SELECT THE TRIF ID UNDER GROUPING VARIABLES (Toxic Release Inventory Facility Identification Number).

This number is unique to every site and remains with the site forever. This is an alphanumeric number which begins with the zip code of the location (yellow highlight), includes some letters, representing the initial filer, and numbers that indicate the address (red underline). Below it seen that **DRPRK** represents **Deer Park**, and **DLTCH** represents **Delta Houston.** However, **WRGRC** doesn't appear to match up with **Geo Specialty Chemicals** so this facility may not have been the original filer.

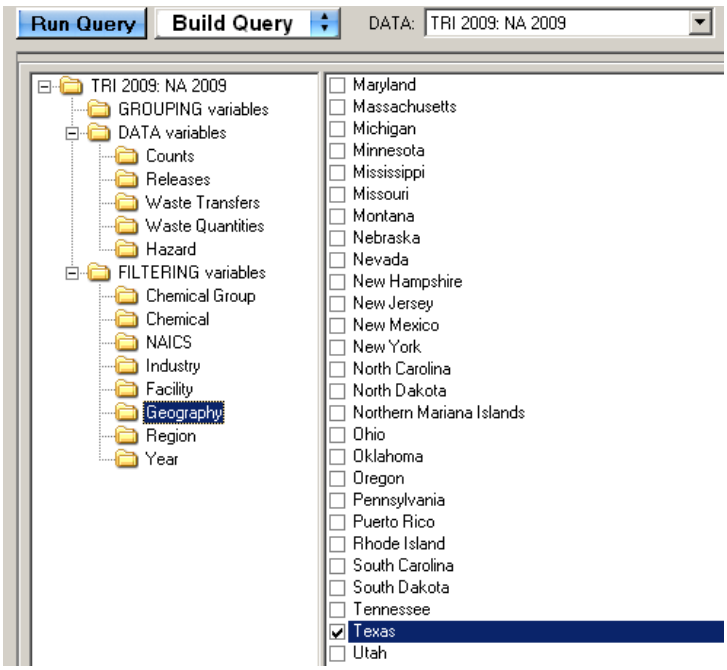
TRI FACILITY ID	FACILITY INFORMATION	FACILITY NAME	ADDRESS
77536DRPRK5900H	View Facility Information	DEER PARK REFINING LP	5900 HWY 225 DEER PARK, TX 77536
77536DLTCH334TI	View Facility Information	DELTA HOUSTON	334 TIDAL RD DEER PARK, TX 77536
77536QLNLB5900H	View Facility Information	EQUILON LUBRICANTS CO DEER PARK	5900 HWY 225 DEER PARK, TX 77536
77536WRGRC739BA	View Facility Information	GEO SPECIALTY CHEMICALS	739 INDEPENDENCE PKWY (FORMERLY BATTLEGROUND RD) DEER PARK, TX 775361909

Input sequence to map the TRI facilities within a 3 mile radius of 410 E 9th Street, Deer Park, TX who reported in 2009.

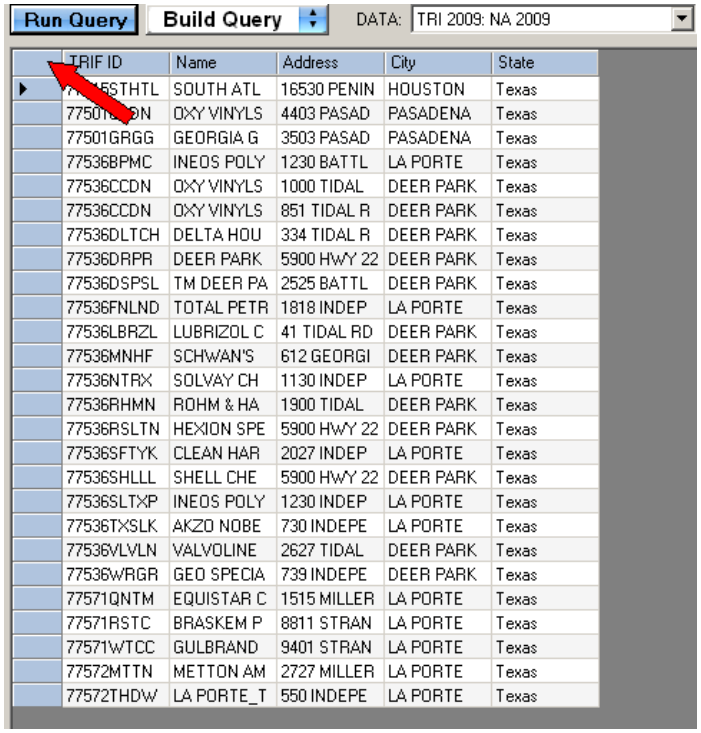
GROUPING variables:

TRIFID
Name
Address
City
State

At the moment we are not interested in obtaining any actual data on what chemicals were emitted or how much were emitted, so **DATA variables** can be skipped. However, under **FILTERING variables** we want to narrow the search down to just Texas, and if we want down to just Deer Park, TX. Select "Geography" and then check Texas. In fact, I discovered that you really don't need to select Texas, for you have narrowed your search automatically within the

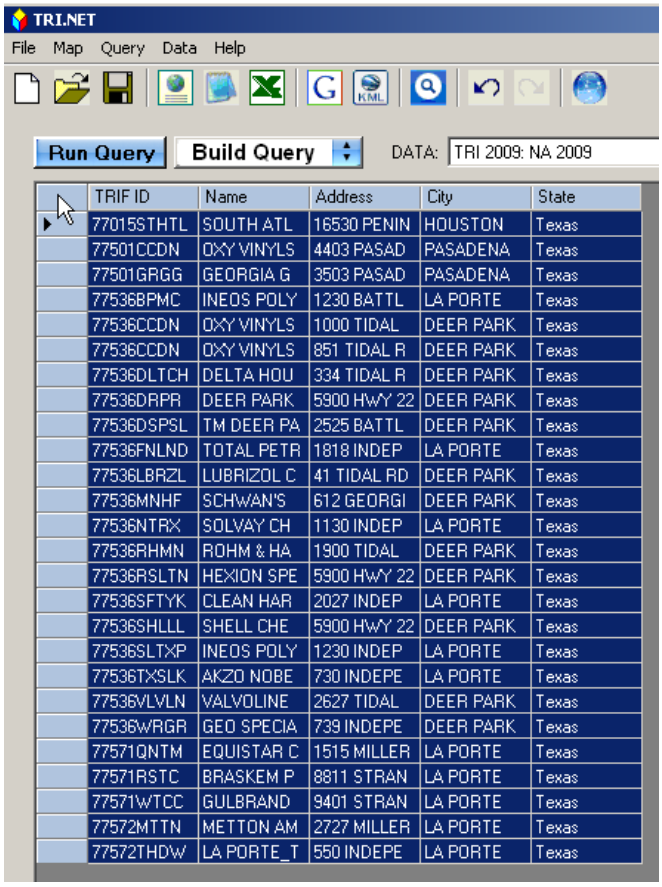


"My Neighborhood" specification. Click on "Run Query" and you see that a number of facilities were returned that are within a 3 mile radius of the address we gave in "My Neighborhood." Before proceeding to mapping you must select all the facilities by clicking the upper most left cell. This will select all the facilities.



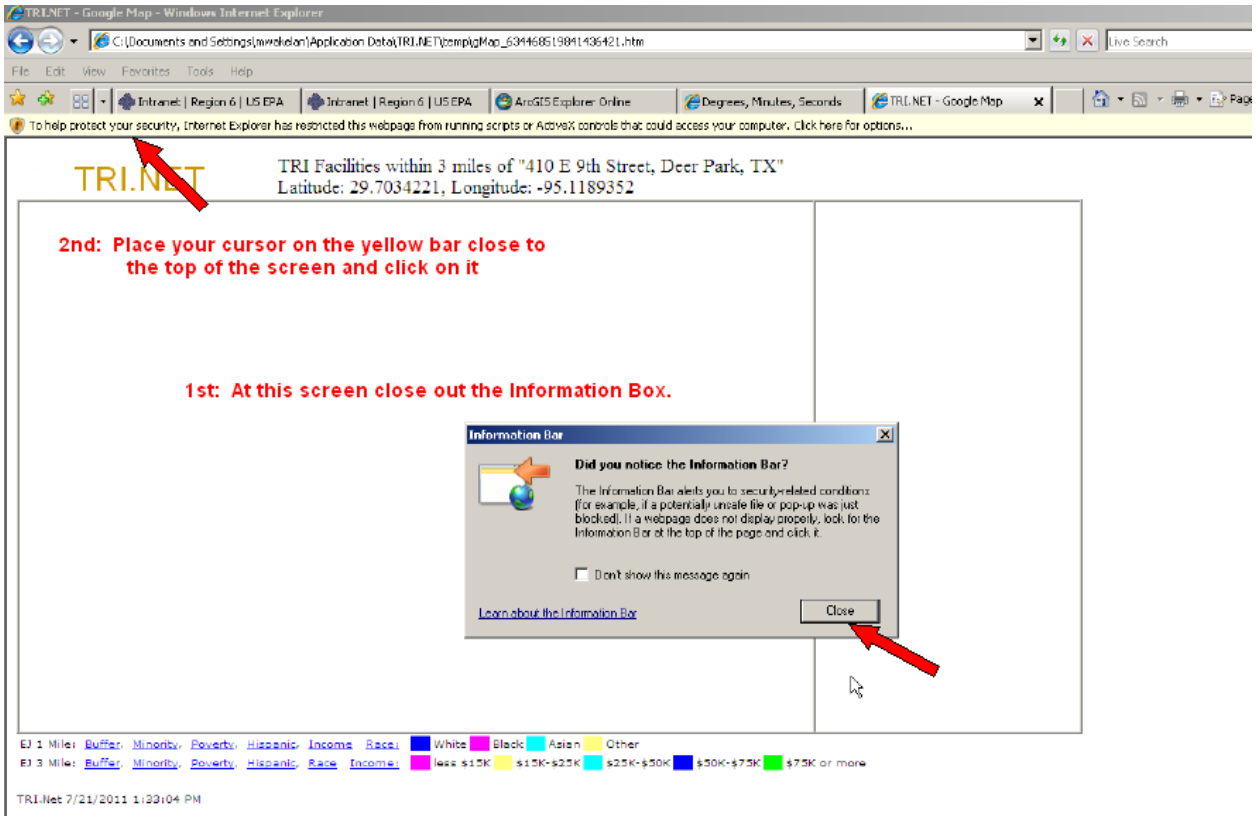
TRIF ID	Name	Address	City	State
[illegible]5STHTL	SOUTH ATL	16530 PENIN	HOUSTON	Texas
7750[illegible]ON	OXY VINYLS	4403 PASAD	PASADENA	Texas
77501GRGG	GEORGIA G	3503 PASAD	PASADENA	Texas
77536BPMC	INEOS POLY	1230 BATTL	LA PORTE	Texas
77536CCDN	OXY VINYLS	1000 TIDAL	DEER PARK	Texas
77536CCDN	OXY VINYLS	851 TIDAL R	DEER PARK	Texas
77536DLTCH	DELTA HOU	334 TIDAL R	DEER PARK	Texas
77536DRPR	DEER PARK	5900 HWY 22	DEER PARK	Texas
77536DSPSL	TM DEER PA	2525 BATTL	DEER PARK	Texas
77536FNLND	TOTAL PETR	1818 INDEP	LA PORTE	Texas
77536LBRZL	LUBRIZOL C	41 TIDAL RD	DEER PARK	Texas
77536MNHF	SCHWAN'S	612 GEORGI	DEER PARK	Texas
77536NTRX	SOLVAY CH	1130 INDEP	LA PORTE	Texas
77536RHMN	ROHM & HA	1900 TIDAL	DEER PARK	Texas
77536RSLTN	HEXION SPE	5900 HWY 22	DEER PARK	Texas
77536SFTYK	CLEAN HAR	2027 INDEP	LA PORTE	Texas
77536SHLLL	SHELL CHE	5900 HWY 22	DEER PARK	Texas
77536SLTXP	INEOS POLY	1230 INDEP	LA PORTE	Texas
77536TXSLK	AKZO NOBE	730 INDEPE	LA PORTE	Texas
77536VLVLN	VALVOLINE	2627 TIDAL	DEER PARK	Texas
77536WRGR	GEO SPECIA	739 INDEPE	DEER PARK	Texas
77571QNTM	EQUISTAR C	1515 MILLER	LA PORTE	Texas
77571RSTC	BRASKEM P	8811 STRAN	LA PORTE	Texas
77571WTCC	GULBRAND	9401 STRAN	LA PORTE	Texas
77572MTTN	METTON AM	2727 MILLER	LA PORTE	Texas
77572THDW	LA PORTE_T	550 INDEPE	LA PORTE	Texas

Once the upper most left cell is clicked, all the rows will turn a dark blue to denote all the facilities have been selected.



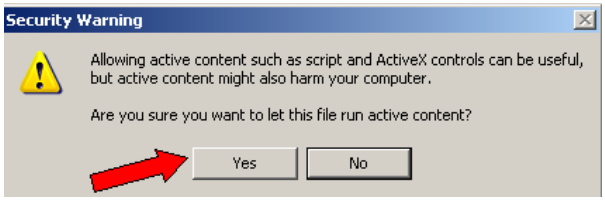
Click next on the menu icon labeled “G” for Google.

On the next screen which appears you need to first close out the Information Box, and second, you need to click on the yellow bar close to the top of the screen.



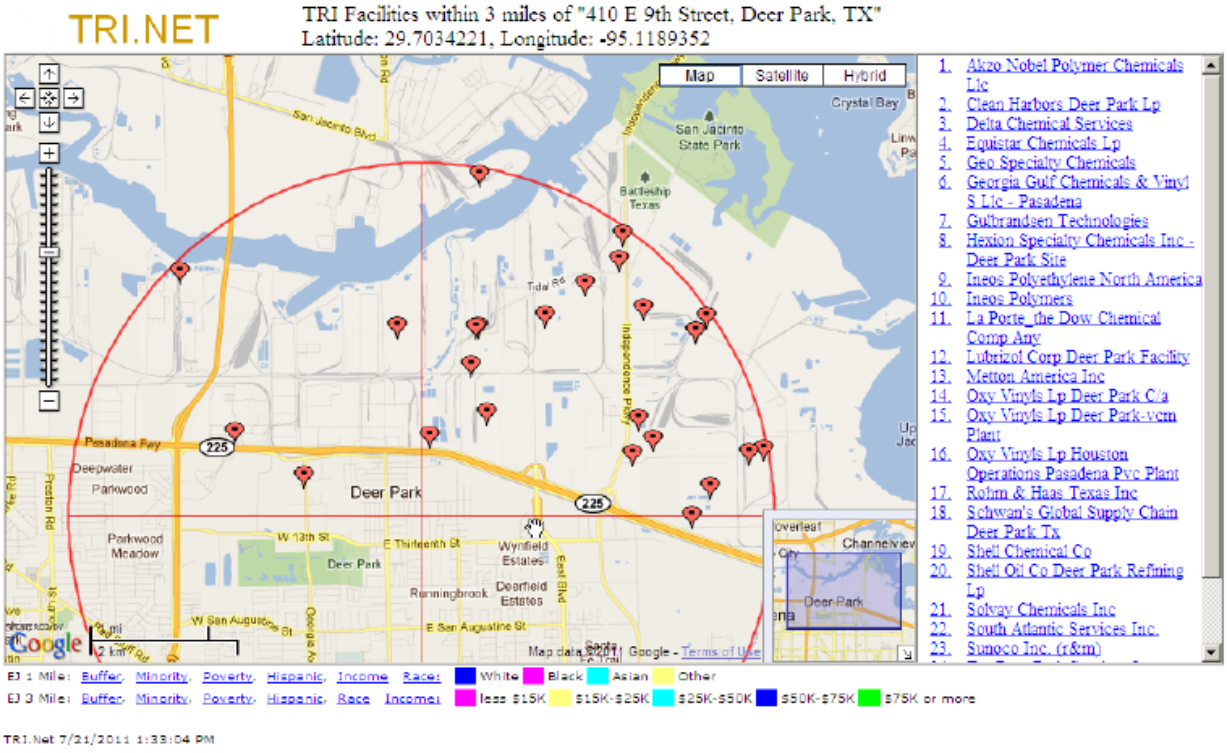
Once you have clicked on it, you want to select "Allow Blocked Content" from the pop-up.

Click on "Yes" to the Security Warning.

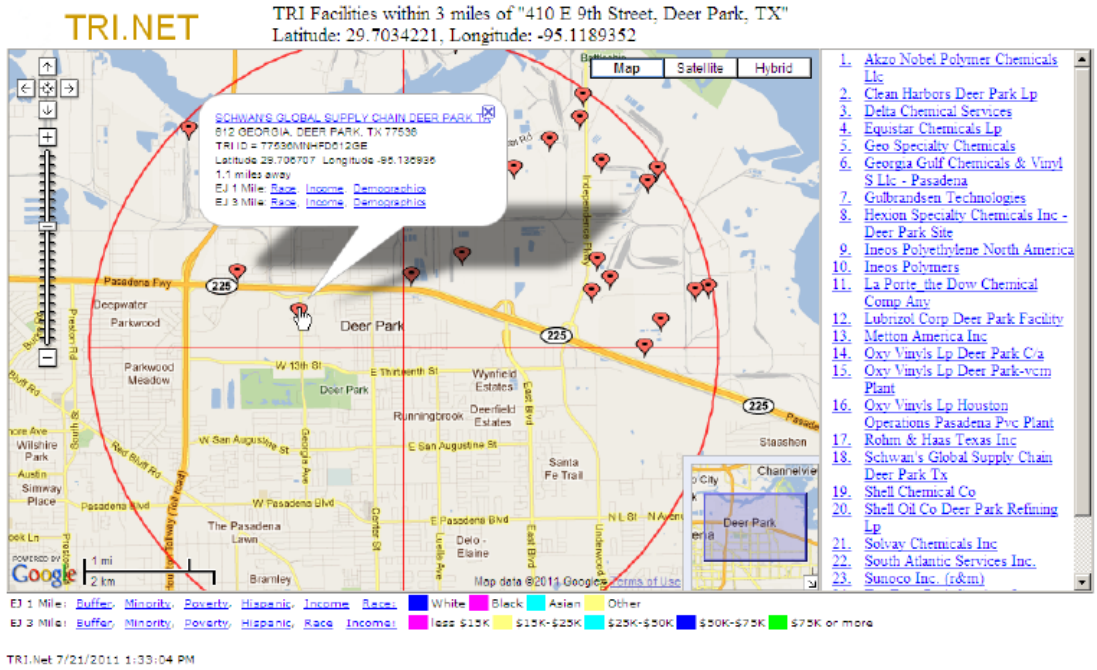


Once you click yes, the map will be generated. After it appears, you can resize it from the left zoom bar.

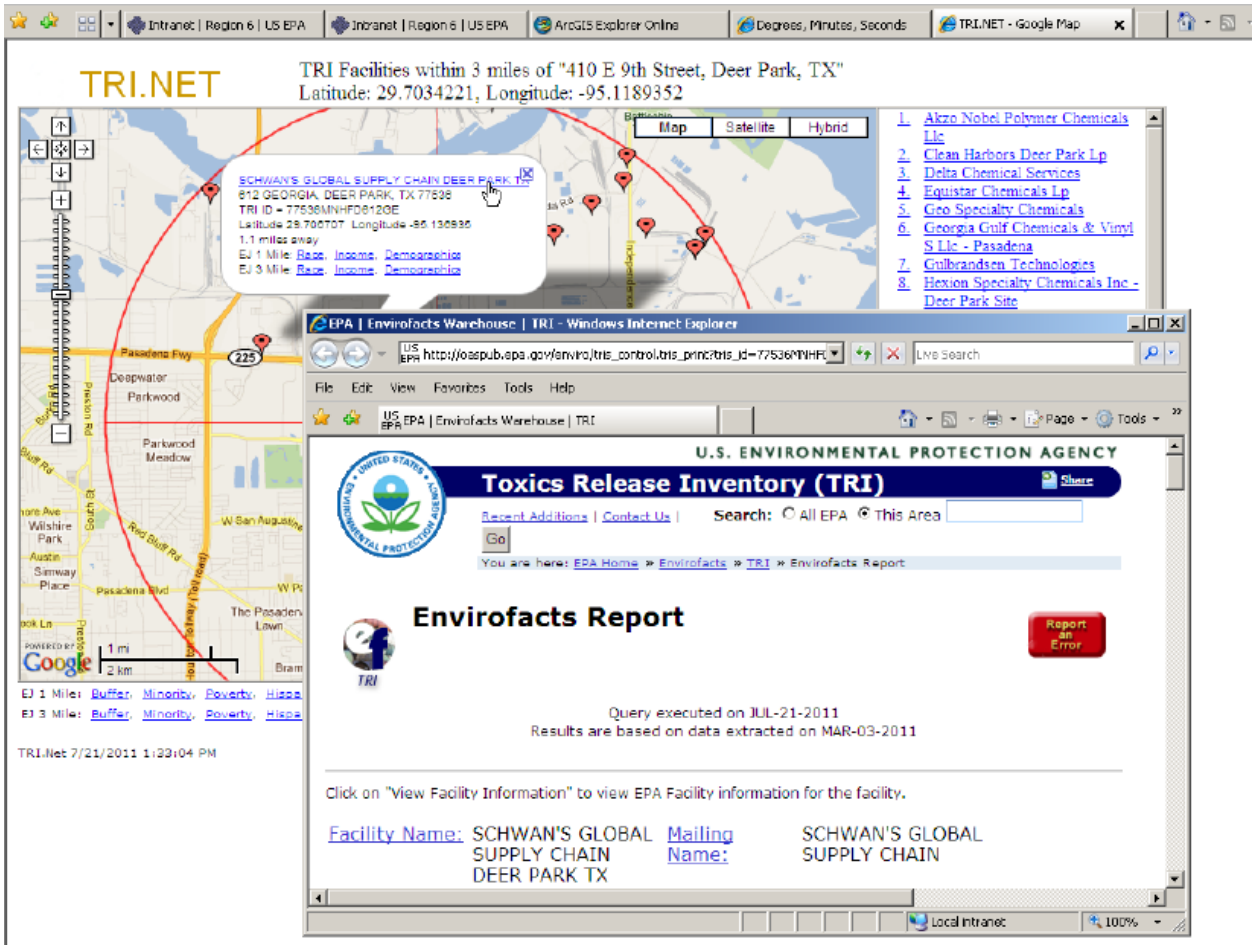
You can also left click on the map and reposition it. Obviously, the intersection of the cross hairs is the address location as best it can be from geocoding into a lat & lon.



You can click on any one of the placemarkers, and the facility will be identified.



Then, if you want more information about that facility, you can click on any facility in the list and be automatically taken to its information in Envirofacts, or, as in the above call out, you can click on that link to obtain release and waste management information.



If you discover mistakes, or have recommendations about how to improve this document, so others may find it more useful, please feel free to contact me, "Mort" Wakeland, U.S. EPA Region 6, Toxic Section (6PD-T), 1445 Ross Avenue, Dallas, TX, by mail or call 214.665.8116, or email me at: wakeland.morton@epa.gov.